Hard Work for Good Schools:
Facts Not Fads in Title I Reform

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EXECUTIVE SUMMARY

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Introduction

Improving educational opportunity for millions of poor children has been the basic goal of the Title I program for a third of a century. Critics say that the effort is a failure and supporters say that there were major gains. This volume presents research by many of the nation's top experts on how to gain more from the investment. The studies raise a set of issues that have been ignored in the current debate over Title I, and call into question some of the basic assumptions underlying the education reform efforts of the last two decades. This volume contributes real evidence about educational gains and underscores the civil rights implications in this legislation. Better results from Title I are possible but they will not happen without intelligent focus on the evidence of what actually works and without vigorous administration of the law.

The research in this volume is based on the premise that Title I—the largest federal program for elementary and secondary education—is an essential provider of equal opportunity to our nation's poor children. In preparation for the 1999 reauthorization of Title I, The Civil Rights Project at Harvard University believed that this federal program needed to be reassessed by researchers, policymakers, and educators. In commissioning new research and in convening a conference and two legislative briefings, it was our hope to contribute sound research to the current policy debates surrounding education and, most importantly, to see what we can learn about how Title I can better serve children in this country.

Key Findings

- State accountability systems that do not look at performance of minority and low-income students do not produce the appropriate Title I accountability. Although states report on the performance of groups of students, they are not held accountable for ensuring that these groups, or individual students, meet the same high standards. (Ch. 10)
- Decentralization for teacher development of curriculum in poor schools may actually produce losses in student achievement over the longer term; these schools are overwhelmed and in need of greater social service supports. (Ch. 6)
- Class size reduction in the early grades is an intervention that is positively associated with growth in poor students' test scores. (Ch. 4)
- The historic focus of Title I on an early intervention model has failed to produce lasting results, and we need a program for adolescents and high schools. (Ch. 8)

  > "The current staggering loss of well-educated human talent due to dropouts and low academic achievement by high school students from poverty backgrounds will not be halted until extra help is provided at each stage of the human development process from early childhood through young adulthood."—James McPartland and Will Jordan

- The effects of concentrated poverty both in schools and neighborhoods is a central educational problem that lowers achievement. Title I has not addressed this problem. (Ch.11)

  > "Children in impoverished neighborhoods are hurting academically, not just from their own poverty, but from the poverty that surrounds them. The negative effects of concentrated poverty are not simply restricted to poor children; those students receiving no lunch subsidy are also achieving much less if they live in impoverished neighborhoods."—Stephen Schellenberg

- Although student socio-economic status is still the foremost predictor of achievement, reformed instructional practices do matter if consistently applied. (Ch. 5)
- Curriculum is a vital part of opportunity. Enriching the curriculum is a difficult and long-term process, one that normally offers less to schools with high concentrations of poverty. (Ch. 5)
- Externally-developed and validated schoolwide programs usually yield better results than locally developed programs. (Ch. 12)

Policy Recommendations

- Decentralized block grants to schools do little to ensure stronger instructional policies on the scale that is needed. The federal government has already moved too far in that direction. (Ch. 1, 2)
- There needs to be a more explicit connection between the federal level and the district. The district is the institution that can monitor schools' needs assessment and implementation of schoolwide projects. (Ch. 2, 14)
- Districts should be required to oversee adoption and implementation of the design of school-wide projects. (Ch. 9)

  > "It is clear that if the federal government wants school-wide models to be effective, or even implemented, it will have to address the role of the district. The federal government should promote, encourage and support the free flow of information and funding within the system to develop more informed consumers at the district and school-levels by disseminating information [about], program designs, realistic planning timelines for developing and adopting school-wide programs, realistic expectation, costs of design adoption and the investment levels needed in professional development, and regulatory and other barriers to implementation and the need for district supports."—Susan Bodilly and Mark Berends

- Programs supported by Title I should either be proven effective or have systematic independent assessment attached to them. (Ch. 7)

  > **"**A key requirement for making this policy effective would be to invest substantial resources in the development, evaluation, and dissemination of programs capable of increasing the achievement of all children in Title I schools."—Robert Slavin

- Districts should conduct a needs assessment of the various levels of staffing support needed for teachers in high-poverty schools. Addressing the overall organizational needs of a school will enable it to better serve its students. (Ch. 6)
- A state's long-term commitment to standards, assessment, and content-based professional learning opportunities will provide the greatest assurance of increasing disadvantaged students' opportunity to learn. (Ch. 5)
- In addition to schoolwide programs, individual systematic interventions should be examined in grades 4-8. (Ch. 13)
- Ineffective programs should be discontinued. (Ch. 9)
- Policies to lessen school poverty concentrations should be encouraged.
- Regardless of which type of schoolwide program is chosen, systematic formative and summative evaluation is essential. (Ch. 12)
- More fundamental research is essential for expanding the knowledge base for Title I.

Volume Chapters

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2. Beyond Compensation: Rethinking Title I Based on Research, *Elizabeth H. DeBray, Harvard Graduate School of Education*
3. Title I: From Funding Mechanism to Educational Program, *Gary Natriello, Teachers College, Columbia University and Edward L. McDill, Johns Hopkins University*
4. Making Title I More Effective: Lessons from Recent Research, *David Grissmer and Ann Flanagan, RAND*
5. Instruction, Poverty, and Performance,
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6. Teacher Roles and Student Achievement in High-Poverty Schools: Implications for Title I Schoolwide Improvement, *Jerome V. D'Agostino, University of Arizona*
7. How Title I Can Become the Engine of Reform in America's Schools, *Robert E. Slavin, Johns Hopkins University*
8. Older Students Also Need Major Federal Compensatory Education Resources, *James M. McPartland and Will J. Jordan, Johns Hopkins University*
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11. Concentration of Poverty and the Ongoing Need for Title I, *Stephen J. Schellenberg, Saint Paul (MN) Public Schools*
12. Selection and Evaluation of Locally Developed Versus Externally Developed Schoolwide Programs, *Steven M. Ross, Marty Alberg, University of Memphis and John Nunnery, Memphis (TN) City Schools*
13. Overcoming the Cognitive Wall: Accelerating the Learning of Title I Students After Third Grade, *Stanley Pogrow, University of Arizona*
14. The Need for Developing Procedural Accountability in Title I Schoolwide Programs, *Margaret C. Wang, Kenneth K. Wong, and Jeong-Ran Kim, Temple University*

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STRENGTHENING TITLE I: DESIGNING A POLICY BASED ON EVIDENCE

GARY ORFIELD
Harvard University

Come into the teacher's room in the Jefferson school in an old neighborhood in Centropolis, the state's largest city. The room is small, equipped with only an old coffee pot and a table to sit around, and lacks functional work spaces. It is the end of a long school day. One of the teachers mentions that Congress is working on another federal school bill and there is a big fight between the President and some of the congressional leaders about what provisions to include.

Gwen Moreno, who was an honors graduate in English from the state university and has been teaching at Jefferson for 18 years, is not very interested. She has heard a lot of promises from politicians to improve conditions, and few have materialized over the years.

George Jackson, the young history teacher, spends hours watching C-Span: "Listen," he says, "the President wants more tests and higher standards and I think a lot of folks in the Congress want to turn it all over to the state governments."

"I wish I could have some of those big shots teach my first period class," says Gwen. "What would they do with kids who can barely read, kids that have to cross dangerous gang boundaries to get to school, kids who are going to be out of here next month because their families can't pay the rent, kids who just got here from China and Mexico and can't speak English. I don't think that the old retired suburban superintendents down at the state ed department would even dare to get out of their cars in this neighborhood."

At this point the math teacher, Percy Eaton, pipes up: "Yes, and how about those state tests? They change the scores and the content, can't decide whether or not we're in the computer or even the calculator age yet, and put more and more pressure on us without giving us the tutors and help we need to give these kids a chance. What good does it do to tell us that 73% of our kids are below the cutoff score? Can they really think that paying a lot of money to send kids who hated ninth grade back through the same classes next year, humiliated to be in with a bunch of younger kids, is going to do a lot
of good? I think that they're just trying to undermine public schools."

> "Well," says George, "you've got to admit that we've got a big problem and that kids don't have a fair chance. Maybe we could fix it so the schools with bad scores would have a real chance for a new start with methods that work, not some new fad. Congress has got to do something."

"Just look at this dump of a building," Percy sighed, "It's falling apart, we really haven't had money for the library for a decade, the science materials are prehistoric and the electric system was obsolete before the television era. Our roof might not make it to the 21st century. What would you guys do if you were in Congress?"

Sue Nitson, the Teach for America honors graduate in Biology from Cornell, was taking all this in. "It sure would help," she said quietly, "if my classes were small enough so that I could have the time to spend with smart students who just don't have some of the skills they need and are giving up. I wonder," she mused, "if any of the people making policy have ever tried to teach 150 students a day in an inner city school."

Didi, the tough-talking gym teacher from Mississippi, jumped in with the most pessimistic view: "They'll spend billions to lock up our kids in jail but we can't get anything for our dropout program. They only want to help the little kids. Nobody cares about them when they become teenagers."

"They're trying their best," said Jason, the elderly history teacher who was wearing his American flag tie: "This is really hard to figure out, even for us right in the middle of it."

"Oh, they don't care," says Gwen. "They are just a bunch of lawyers and politicians taking polls, mouthing sound bites and trying to look good for the next election."

"I think they really want to help us," says George, describing the sincerity of some of the people he has been watching on C-Span. "I hope they do. We need serious help."

This book is based on the hope that George is right and policy makers want to find policies that actually work. Education is a potent political issue right now and there is a temptation to support whatever is popular. But there are very serious problems that

must be solved. This book is intended to deepen what we think has been too limited a debate. We hope, through new research, to provide evidence that those who care deeply about what is going on in thousands of schools like Jefferson can use to help make things better.

After commissioning researchers across the country to report on the newest evidence available, we are convinced that real progress is possible and that there are known paths toward actual gains, but that we need much stronger leadership if we are to get there. We see slogans taking the place of analysis, claims of huge successes that really don't appear in the data, and very little discussion of the best available research.

As we enter a heavily political season, a number of things militate against legislation that really helps high poverty schools. Some of the popular ideas under consideration by the Clinton Administration and Congress may actually make things worse. Many of the reforms of the past two decades had little or no basis in research about education and do not work. Too many leaders assume that they know the answers, decide what they want to do, then find an "expert", often a self-appointed member of an advocacy group or ideological "think tank" who has never operated or studied a Title I program, to support their claims. The debate often sounds as if it is based on clear evidence, when in reality it is founded on slogans. People often treat education policy as if it is simply a matter of "common sense", but there are many deep barriers to equal education in high poverty schools that have not yielded to decades of common sense reforms. Successful programs require skillfully targeted and sustained interventions.

A number of activists, lobbyists, and staffers working on the bill told us that the decisions on Title I would be purely political and that new information would be useless. We think that this is much too cynical a view and decided to commission researchers to contribute to what has been an intellectually impoverished debate. In putting together this book we wrote to all the researchers we heard of who were working on Title I and asked them and other scholars to tell us about data they had and about any other researchers with data that could inform the Title I debate. Scholars then submitted research proposals and we commissioned studies from the best proposals. We were not committed to any answer when we started this process and did not apply ideological tests to the studies. We shared the deep disappointment with the results of Title I programs to date and thought that the best way to proceed would be to ask for new evidence.

The book reports new research. This chapter introduces the studies but also attempts to clear the ground by suggesting that some of the key ideas being advocated as solutions for Title I problems are based on political fads, not solid evidence. Particularly striking in this regard is the misuse of testing in proposals from the Administration and many states. High stakes testing–using test numbers alone to make fateful decisions for students–is in direct violation of the ethical standards of the testing profession and is likely to increase the dropout rate of minority students according to the recent National Research Council study prepared for Congress. Considerable research indicates that ending "social promotions" and forcing students to repeat grades has increased dropouts without significantly raising achievement. While there is controversy over this issue, there is certainly no reliable basis for recommending large scale flunking policies.

The second panacea that I dispute in this chapter is the idea of increasing state and local discretion, so central in the debate on the Ed-Flex legislation. The reality is that local and state educators have long been the dominant force in Title I, that they have not done a very good job, and the federal

authority now being exercised is below the minimum needed to enforce basic accountability. Many years of state and locally run federally-funded programs show that such programs tend to either disappear without a trace into local budgets (the federal contribution to total school costs is only about 6%) or fund unimaginative programs which have little accountability or evidence of success. Certain functions are logically best done at the national level, including research, statistics, evaluation of major new approaches, enforcement of federal civil rights requirements, and communicating new ideas broadly to the nation. Even administrations strongly in favor of decentralization have found this to be true.

The federal government is a minor partner in education but has a uniquely important role to play, keeping a focus on the fate of poor and minority children. Federal officials are also able to broaden the agenda of professional and community discussion because they have the bully pulpit and they enforce national requirements for fair access to educational opportunities. If the small federal financial contribution were to be simply spread out thinly across the country, it is likely to disappear without the slightest idea of what, if any, difference it made. This happened when the last block grant became law. Anyone who thinks that discretionary money allocated to local districts without strings is going to be focused effectively in the long run on making a difference for low income schools has not paid serious attention to the way these districts operate. Close observations reveal that there is seldom any serious accountability for these programs, that they receive uncritical assessments from the majority of districts, and that there is a constant struggle for resources between more affluent and powerless communities within school districts and legislatures. Title I reform, according to the studies in this book, requires focused, informed, and persistent effort. It requires very hard work to foster and keep good schools in poor communities. This book is intended to help focus that effort on programs that can make a difference. This chapter reviews where we have been and reports disturbing evidence of the end of progress in cutting the racial gap in achievement and high school and college completion and the failure of the Goals 2000 initiative. It sets the stage for Elizabeth DeBray's overview of the research findings in chapter 2.

TITLE I AND EQUAL OPPORTUNITY

Though our research center is concerned with issues of racial justice, we think that focusing on Title I is perfectly consistent with our mission. Education is a basic civil right in contemporary America. Nothing more powerfully determines the chances for a person's life. Educational opportunity for most blacks, Latinos and American Indians has always been unequal. Blacks and Latinos are more segregated than they were two decades ago and the racial segregation is accompanied by a kind of concentrated poverty few white students ever experience, except in some rural areas. Desegregation efforts are being abandoned and ghettos and barrios are expanding. Traditional civil rights protections, including affirmative college admissions programs, are being terminated. This introductory chapter reviews the progress made in narrowing racial gaps in achievement and college admissions during the 1960s and 1970s, and reports disturbing evidence of the end of this progress during the past fifteen years. In this situation it is extraordinarily important that the largest program intended to help the schools of poor and minority kids actually works.

Schools serving poor and minority children should, at a minimum, prepare students for post-secondary education and decent jobs. But this modest standard is not being met in most urban districts, which enroll fewer and fewer middle class students and are unable

to halt the ever-widening concentration of impoverished schools with low performance levels and high dropout rates. Teachers are expected to deal with the overwhelming problems affecting children who come from dysfunctional and abusive families, have parents with no stable income, have immigrated from other countries, are developmentally handicapped, are strongly impacted by negative peer group influences, and exhibit a host of other serious problems. They often must do so in decrepit facilities without adequate financial or educational resources. Ironically, as politicians and the general public clamor for higher academic standards and more severe consequences for those who fail to meet these standards, a level playing field for all students–an equal opportunity to learn–is even farther away from reality.

FALSE ASSUMPTIONS BEHIND CURRENT EDUCATIONAL REFORM PROPOSALS

The debate swirling around the future of Title I must be viewed within the context of the current national school reform movement. Unfortunately, many of the principal reforms of the last two decades that now have powerful political backing show little evidence of educational gains. Their weaknesses are the basic reason why the goals for American schools in 2000, agreed to in an 1989 education summit meeting by President Bush, then Governor Bill Clinton and the nation's other governors, are being quietly abandoned. While states have been actively implementing the various strategies that leaders embraced, they are not only falling far short of the goals, but are actually losing ground on several fronts.

Goal	1990-1996 Trend
Dramatically increase graduation rate	Decline in graduation rate for blacks and whites. 1.0% increase for Latinos (If GEDs included, no overall change)
End disparity in graduation by race	Disparity up 3.0%, to 9%, for blacks Disparity down 1.0%, to 30% of Latinos
End disparities in attaining standard for reading	Disparities were unchanged or increased for blacks , Latinos and American Indians at all tested levels
End disparities in attaining standard for math	Disparities were unchanged or increased for blacks, Latinos, and American Indians at all levels

TABLE 1: GOALS 2000 RESULTS

The *Goals* report also shows that the rate of college attendance for high school graduates fell by one percent for blacks and rose by 3% for whites from 1990 to 1995.[i] Between 1992 and l996 the college completion gap between white and black high school graduates increased by a reported 3% and the gap between whites and Latinos increased 5%, although these increases were not large enough to be considered statistically significant.[ii]

Most of the current school reform ideas favored by policy makers today were initially proposed 15 years ago by President Reagan's *A Nation at Risk* report and in other administration policies of that era. In my opinion, they include a number of false assumptions that have harmed educational progress since. These include:

- turning programs to educate poor children over to the states would make them better
- local schools and districts have workable plans to effectively educate students in impoverished schools
- all of the existing state standards and high stakes tests would bring improvements for these children
- ending "social promotion" would help, not harm, Title I children
- returning to segregated neighborhood schools would improve educational performance
- effective reform of high poverty schools can be achieved though commands and sanctions from state governments

It is important to note that most of the reforms of the past 15 years were proposed by politicians, not prominent educators, without any review or consideration of current data or consultation with leading researchers. Rather, the policy makers have a predetermined idea of what they want to propose (often poll-driven) and then seek out an "expert" who can confirm the idea's legitimacy, frequently from a politically-oriented think tank in Washington. Many of these "experts" have never worked in or studied Title I schools.

We discovered that many of the best researchers in the country who are conducting important studies on school reform and learning in low income schools have never been contacted by any policy makers.

When these policies inevitably fail, politicians denounce teachers, teacher's organizations, bureaucracies, education schools, and even the "public school monopoly" instead of criticizing their own erroneous assumptions. They then proceed to adopt another set of reforms that also lack any serious research foundation.

I have often found, for example, that states enact new curriculum requirements without even checking to see whether low income schools have the teachers, facilities, or equipment to implement them. Other states adopt sudden cuts in class size without taking into account the fact that many Title I schools lack both sufficient classrooms and trained teachers needed to meet the new size requirements. Thoughtful, consistent implementation of reforms sensitive to the realities of Title I schools is rare.

While education is at the top of the public's list of concerns, the debate is still largely about slogans and sound bites. My fear is that the limited success of Title I so far and the deeply polarized political conflicts in Washington will transform the debate over this vital education measure into an ideological tug-of-war between candidates. In the process, the interests of millions of children in Title I schools will be abandoned. In the worst case scenario, the program could turn into a disorganized potpourri of popular fads and we will lose our window of opportunity to implement necessary but difficult long-term change.

Historical Context and Current Realities

Title I was enacted in 1965 to help concentrated poverty schools. It was created during the height of the civil rights movement, when the federal government undertook a major effort to address the nation's history of racial discrimination and to help its impoverished underclass. Many educational programs adopted during that period–ranging from Head Start, to the Upward Bound college access program, to the first major federal scholarship program–were designed to overcome barriers limiting educational opportunities of poor children. New civil rights policies produced a dramatic increase in access of minority students to competitive, integrated schools and colleges. These policies constituted the educational component of a wider legislative "War On Poverty", that sought to increase decent housing, offer more job training programs and public jobs in the cities, and that brought about the most rapid increase of civil rights protections in U.S. history. These new programs help explain why the 1960s and 1970s marked the only period in the last half century when poverty declined sharply and when racial gaps in educational achievement were narrowed most decisively. A growing number of black students finished high school and entered college and their test scores rose substantially, particularly in the South. In their chapter, David Grissmer and Ann Flanagan note that the largest education gains recorded in U.S. national assessments came for cohorts of black students entering school between the late 1960s and the late 1970s, particularly in the South. They postulate that these "could reflect social and legal changes aimed at equalizing educational opportunity, additional educational resources, and the implementation of civil rights legislation creating new job opportunities for academically successful blacks…." By the late 1970s, the percent of black and Latino high school graduates who entered college was nearly equal to those of whites.

TABLE 2: LONG TERM TRENDS IN BLACK HIGH SCHOOL COMPLETION (INCLUDING GED DEGREES) FOR YOUNG ADULTS, AGES 25-29

1940	12.3%
1950	23.6%
1960	38.6%
1970	58.4%
1980	76.7%
1990	81.7%

TABLE 3: COLLEGE INITIAL ENROLLMENT RATES BY RACE AND ETHNICITY, 1978-1996

	White	Black	Latino
1978	49.9	45.8	49.2
1980	49.9	44.3	46.6
1986	57.6	39.6	46.3
1990	60.9	47.9	54.0
1996	64.0	52.8	51.5
Increase	14.1	7.0	2.3

Source: National Center for Education Statistics, *Digest of Educational Statistics 1997*: 17

However, these gains ended in the 1980s as college costs rose rapidly, coverage of scholarship programs was diminished, admissions requirements were made more rigorous, and civil rights policies were sharply curtailed following the Supreme Court's *Bakke* decision in 1978. The percentage of white students beginning college rose much faster than the percentage of black and Latino high school graduates, thus substantially widening the racial gap in college access (Table 3). There has always been a much more dramatic gap in the percentages completing four year degrees, and this gap has grown wider as well. In 1993, blacks were only 6.7%, and Latinos only 3.9% of students receiving Bachelor's degrees, far less than half their share of the nation's school age population.

These reversals have continued in the 1990s. The dropout rate is once again rising for black students. The racial gaps in test scores have stopped narrowing and some are widening. While minority students show some improvements from recent declines on tests in the new 1998 NAEP reading scores, the general trend remains disappointing. The positive news for the past two decades has taken place primarily in elementary schools but this progress has slowed or halted by high school. High school achievement, of course, is the critical factor in graduation, college matriculation, and success in life. It is deeply ironic that attention has remained so focused on the early grades for a quarter century in spite of strong evidence that lasting impacts of early interventions are usually limited or non-existent without subsequent interventions down the road. Policy makers have been repeating the mantra that early interventions will produce lasting educational fixes for a third of a century but the NAEP data shows no such trend. High schools have their own distinct and severe problems for poor kids which have never been seriously addressed.

The country is clearly failing to meet the early hopes of Title I. While the improvement of educational opportunity, and the resulting improvement in academic achievement for millions of poor children, has been the basic goal of the Title I program, for a third of a century, the Congressionally-mandated *Prospects* study reported no academic gains for the national sample of Title I students which it tracked. Critics are using the study to bolster their argument that Title I is a failure and should be replaced by a radically different approach. Supporters say that there were major gains, particularly for black students, in the early years of Title I and that proper implementation of the law could once again result in substantial gains. The studies in this book support the latter view.

POLITICS AND RESEARCH: RETHINKING TITLE I

Title I has been the largest federal program for impoverished public schools for more than a third of a century, surviving seven presidential administrations and vast ideological shifts. Today, however, it is facing its most serious threats from the White House and Congressional Republicans, with proposals for radical redirection.

In such a highly politicized environment, we were warned by some observers that it was futile to produce serious research which was likely to be dismissed by most politicians eager to enact their favorite cliché. However, we continue to believe that many Senators, Congressmen, and Administration officials take their commitment to improve education for poor children seriously. In any case, we feel strongly that it is impossible to implement effective policy on very difficult issues without first examining the implications of rigorously tested information.

We initiated this project because we discovered there was not enough evidence on the record to permit anyone to make a truly informed judgment about how to improve Title I. We found that much of the debate was based on vague impressions of programs in local districts or states that were working, connected to even vaguer claims that the reported success was caused by testing, flexible regulation, lower class sizes, a particular curriculum, higher teacher salaries, or any one of a host of favorite theories. We found a pyramid of anecdotes and suppositions in place of the kind of serious analysis that a national crisis deserves.

Title I is not an educational program. Title I does not prescribe any educational approach. It is a mechanism for targeting funds to benefit schools with high concentrations of low income students. The *Prospects* study commissioned by Congress does not examine whether such money could produce benefits but whether the schools receiving Title I funds produced any measurable academic gains. The report on the effect of existing programs in the early 1990s is less of an indictment of Title I than of the priorities and skills of the school district officials spending those dollars.

This book approaches Title I from a very different perspective. Our project searched the country for researchers with current data who were prepared to address the central question now being asked about Title I–Why isn't this money producing larger gains? This is an urgent question not only for conservatives but for anyone concerned with improving the future prospects of low income children. Preserving Title I will be a true victory only if the money actually leads to an increase in educational achievement for poor students. "Winning" the legislative battle by funding a program that does not benefit its targeted population is losing the war.

We began by assuming that traditional uses of these funds have not resulted in adequate gains, and then sought out the strongest possible evidence of programs that do work in schools with concentrated poverty. We did not search out stories of unique successes or great leaders since any policy that relies on the replication of genius on a wide scale is doomed to fail. Rather, we sought to identify replicable methods that could be broadly applied by teachers in a diverse range of Title I schools.

We did not select authors who agreed with some preconceived policy. We asked researchers what kind of reliable data they had, not what they would conclude. As you will read, the authors discuss a number of issues rarely addressed in recent educational policy debates. Many of the conclusions which they draw challenge the preconceptions of traditional liberals and conservatives. Their findings forced us to question some of our own previous assumptions and to discard ideas we believed at the outset. Liberals supporting school level curriculum development, for example, may find disconcerting the conclusion that high poverty schools trying to implement this typically do not succeed. Rather, they derive greater benefits from tested approaches consistently applied and from outside help with the non-educational problems of poverty which afflict their schools. There is a general consensus among the authors that the nostrums and assumptions that have dominated educational policy since the early 1980s are, at best, inadequate and simplistic and, at worst, actively harmful to minority and poor children.

We do not intend for this research to serve as ammunition for legal or political defense of old programs. What we offer is the best evidence and best judgments of some of the nation's most talented researchers in this field. To our knowledge, no other independent research of this magnitude has been attempted before any of the previous re-authorizations of Title I.

Some of the needed elements for improvements recommended by our studies are already present in the 1994 amendments–if they were administered with more firmness. Congress also took an important step toward achieving real gains from Title I when it enacted the Obey-Porter legislation in 1997, which creates incentives for schools to adopt "proven strategies" for getting results. This was an excellent idea. Unfortunately, the list of 17 eligible "research-based" programs listed in the $145 million Comprehensive School Reform Demonstration Program went far beyond those that had produced solid evidence of effectiveness. Of those recognized as successful models in the legislation, a recent review of the research by American Institutes of Research (AIR), *An Educators' Guide to Schoolwide Refor*m, concludes that only a small minority have produced reasonably solid evidence of effectiveness.[iii] Many of those listed offer little or no documentation of success. If this approach is to succeed, politics should not dictate what programs make it to the list. This is a task that Congress could assign to the Department of Education and the National Research Council, which could well consider some of the issues examined in the AIR report. Without a serious and independent review of the evidence, the purpose of this legislation is defeated.
Appropriate educational leadership at the federal, state, and local levels could put many of the other changes recommended by authors in this book in place without major additional adjustments to the law. However, significant improvements to this law will be difficult to implement. If there were easy answers that could work quickly with moderate effort, the Title I billions would probably already be making a large difference. Instead there is a debilitating legacy of failure and denial in many districts. Many school systems have implemented wave after wave of programs announced as breakthroughs, but which turn out to be ineffectual fads. In any large urban school system there is an archeology of Title I programs and equipment; each begun with glossy plans and optimistic hopes only to be quietly shelved for the next "cure" which comes along two or three years later when the anticipated results did not emerge.
This situation is deeply frustrating both for educators and policy makers because it frequently results in a series of erratic changes, as each school pursues the latest hopes for big gains. Instead, we advocate for the focusing of resources on sustained, long-term growth and improvement through the implementation and evaluation of credibly tested programs.

MOVING BEYOND THE LIMITS OF THE EXISTING DEBATE

A good starting point, in thinking seriously about the future of Title I, would be to compare Title I schools to middle class schools. Any member of Congress who randomly visited schools in his district serving the highest and lowest percentage of students on free lunch on any given day would be depressed by the profound differences we tolerate in educational opportunity within this country. Particularly at the upper grades, courses with exactly the same name can have very different content and classroom climates. Perhaps a debate fueled by vivid images of real schools and people who work in them would be less inclined toward stereotypes and ungrounded theories.
Certainly, the first principle of the reauthorization of Title I should be a simple one–do no additional harm. The goal of providing better education for children in very difficult circumstances has proved to be so challenging that we must avoid adopting policy changes that have proved to be harmful in the past. Elements in both the proposals of the Clinton Administration and those of its critics could actually make things worse for Title I students. The proposed changes related to "social

promotion" and to turning over more discretion without accountability to state and local officials, for example, have both been tried and failed in the past.

Faced with the discouraging evidence about the limits of direct Title I impacts and the loss of positive forward momentum, every involved party seems to have its own solution, even if there is no direct evidence to support its claim. School officials in large urban districts tend to ask for more resources. Conservatives tend to believe that state governments or charter schools or vouchers would work better. Union officials preach higher salaries for teachers and better training. Critics of teachers attack the schools of education and believe that teacher tests will upgrade the profession.

Community groups call for greater parent and community involvement and test advocates clamor for more, better, and tougher exams. Traditionalists want to return to schools which emphasize moral values, phonics and the old math. Many teachers and administrators in high poverty schools want to end the chaos of flavor-of-the-month reforms and edicts, achieve some understanding of the crisis of poor communities, and receive consistent help with a very tough job. Most of the children and families affected by the decisions being made in the reauthorization just want access to some of the opportunities that middle class children routinely receive. They are neither organized nor significantly represented in the current debates. There is virtually no discussion about reducing the number of poor children and families or helping them escape isolated and declining neighborhoods and schools.

Unfortunately, almost by definition, those making policy lack direct experience as either a parent or a teacher in schools of the poor. In our society, which is profoundly segregated by race and poverty, reforms are usually theories coming from people from somewhere else imposed on other people without power. It is easier for political leaders to project their ideology on the schools they do not have any direct contact with, voting for reforms that appeal to their middle class constituency, than to undertake the complex and confusing task of untangling the evidence, recognizing inequities, and making hard judgments about long and difficult struggles. The experience of the last thirty years shows that reversing patterns of inequality in high poverty schools requires the same kind of skill, intensity and a sustained systemic plan that we devote to developing treatment for a very severe illness or to launching rockets into space. It is a rare and difficult accomplishment to significantly equalize educational outcomes primarily because children in high poverty schools face so many obstacles to academic achievement and their schools tend to lack adequate facilities, resources, skilled teachers, support and funding.

Those debating Title I's future often assume that affected schools are disconnected from the social and economic forces around them. They are not. Schools have students for only a small fraction of the time they spend with their families and peers within their communities. Students with perfect attendance still spend only 20 percent of their waking hours–approximately 1,080 hours a year–in school.

Generations of research indicates that it is not reasonable to expect that schools can solve all the profound problems that deep, persistent and concentrated poverty poses for children. Impoverished neighborhoods produce families without resources, without health care, without stable housing and without positive peer groups and mentors. The children may be hungry, their bodies and minds may not have developed correctly, they may be living in environments filled with violence and fear, their parents and neighboring adults have probably had negative educational experiences, there may be no books or educational materials in their house and

there may be no adults in their block to serve as successful role models. Their school may be ugly and in wretched physical condition. It may be staffed by teachers and administrators who are demoralized, poorly prepared, overwhelmed by the enormity of the problems presented by their students, burnt out, and hopeless. Their community probably has little political power to protect its interests.

A cursory look at any state's testing scores will quickly reveal that those schools where students perform the poorest are also schools where the poverty level is highest. And, it is hardly a coincidence that these are the schools where the *Prospects* study reports that Title I was least effective. "Students in low poverty schools generally score from 50 to 75% higher in reading and math than students in poor schools." The gaps in achievement between schools are huge and they tend to get larger as students become older. About one-third of the students in high poverty schools change schools each year, making it very difficult even for well-organized schools to make a lasting impact.[iv] Yet debates about Title I seldom note these realities. Policy makers are often surrounded by advocates with simple answers. Americans tend to become extremely optimistic about new ideas and very impatient about results. For instance, those who contend that unfettered local control, together with a state testing system, will produce gains for low income students are winning political and legislative battles but deluding themselves. I believe that the lesson that many in Congress and the Administration are drawing from "successes"–particularly in Texas–are off target both in their assumptions about the nature and extent of the success and its causes.

The following section discusses some of the most popular "solutions" to the problems posed by high poverty schools; "solutions" that are likely to be vigorously advocated in the upcoming debate. These include decentralization, high stakes testing, and charter and magnet school provisions. It also looks at the inherent problems that are posed when funds are predominantly focused on the early school years without following through into high school.

DECENTRALIZATION: WILL STATE AND LOCAL CONTROL SOLVE THE PROBLEMS?

Decentralization, hailed as a panacea in the recent Ed-Flex debate, is not a new idea. It was the dominant pattern in federal education programs for many years until the mid-1960s, and it was tried in a drastic way in 1981 without discernible benefits. Before Title I, virtually all federal education funds were decentralized and simply went into local school budgets (impacted areas dollars), or were administered collaboratively by state and local agencies. These programs produced little innovation, very rarely focused on any hard social or educational issues, and tended to simply be distributed through formulas.[v] Virtually no research or independent monitoring was carried out by most state and local authorities to find out whether or not programs were meeting their stated objectives. State legislative policy making was often dominated by interest group politics, with teacher's organizations and associations of program administrators playing very powerful roles in battles that focused on the distribution formula for state aid and the taxes needed to fund it.

All of the presidents elected in the past three decades have been strong advocates of decentralized and state leadership in education. The two Democratic Presidents—Carter and Clinton—were former governors strongly involved in state school reform issues. The present Secretary of Education is also a former governor who strongly advocates state leadership.

There are serious problems associated with decentralization. It is not only much harder to launch broad new national agendas without federal leadership, but states also

tend to differ from the federal government in important ways. They usually have much weaker civil rights enforcement than the federal government, and many have almost no significant civil rights oversight of policy-making and administration of state programs. A survey we conducted of state departments of education reveals, for example, that most of those adopting "high stakes" testing policies do so in violation of the standards of the testing industry and do not collect data on the race of those flunked and denied diplomas by the mandatory high school graduation tests. They operate these policies that have huge impacts on students' lives without gathering basic data to evaluate their social consequences.

When other areas of federal policy were converted to block grants under the Reagan administration's changes in federal community development and job training programs, research showed that the states did not seriously enforce civil rights requirements. A study of several Southern states' takeover of the Small Cities community development program, for example, showed a virtual disappearance of civil rights monitoring and a radical shift in emphasis from upgrading minority communities to subsidizing business development outside those communities. Similarly, after control of job training was transferred to state governments, a detailed study of Illinois showed no civil rights enforcement under the state-controlled program and a shift from long-term training for the disadvantaged to short-term training for a better prepared group.[vi]

The fact that states have no miracle techniques in high poverty schools should be apparent in the record of state takeovers of high poverty school districts. We have experience with Illinois' takeover of East St. Louis, Ohio's takeover of Cleveland, California's takeover of Compton, Connecticut's takeover of Hartford, New Jersey's takeover of Newark and other urban districts. A number of state governments of various ideologies in some of the nation's largest and most sophisticated states have shown no ability to produce major changes in student achievement in highly impoverished cities.[vii] Many urban leaders believe that state officials have little or no understanding of the circumstances they must cope with.[viii] Although state control sometimes cleans up corruption and serious problems in the financial operations of school districts, the state governments have not come close to establishing a record of success in dealing with the educational problems of high poverty schools.

Those who argue that the solution to Title I problems lies in giving state and local officials more autonomy need to examine the experience of several phases of education policy. When Title I was first implemented there were few regulations about fund use, and a report found "improper and illegal uses of Title I funds", state departments of education failing to supervise the program or to comply with requirements that poor people be consulted about the use of the money, and poorly designed educational program.[ix] Many state agencies were diverting Title I dollars to support general expenditures.[x] These abuses led to tighter regulations for the use of Title I funds, regulations later greatly relaxed by the new provisions in the l994 reauthorization of Title I.

A likely indicator of the impact, which block granting of Title I will have, can be found in the experiences resulting from the largest block grant in education created during the 1980s–Chapter Two of the Education Consolidation and Improvement Act. That program consolidated all funds from several programs, the largest of which was the federal school desegregation program, and simply turned it over to the states to pursue the goals as they saw fit. The grants had been allocated primarily to poor and minority districts for the purpose of producing greater equity and fairer treatment. In contrast, the overwhelming

pattern of the states, when they received the money, was to distribute the funds in relatively small amounts to all districts. Thus, money that had been intended to address difficult and important issues now simply became a virtually insignificant part of the aid distributed to all districts. The ability of these dollars to leverage support for the
original goals or any significant reform was eliminated.

Contrary to common belief, there is already a great deal of decentralization to state and local school authorities in the existing Title I program. In fact, the level of federal supervision has fallen well below the minimum necessary to assure any accountability for producing Title I benefits for low income students. School districts were given freedom to invest in "whole school reform", a vague term, and to end the focus on the poor children inside these schools on the theory that broad change, carefully assessed, could well be more productive than targeted programs. Thousands of schools chose this approach. The 1994 amendments formalized the process of permitting the use of Title I funds in a more flexible manner. In his February 11, l999 testimony, Secretary Riley reported to Congress that the department had eliminated "a full two-thirds of the regulations previously covering the Elementary and Secondary Education Act," and cut application "paperwork requirements by 85 percent." The department had granted a total of 357 waivers to states and localities from the remaining regulations and was proposing to "expand ED-Flex to allow all eligible states to participate."[xi]

In return for the discretion, state and local school officials were supposed to specify standards and develop solid assessment programs to assure that their approach produced gains for Title I students, including reporting on results for minority students. The recent report of the Citizens Commission on Civil Rights, *Title I at Midstream*, however, shows widespread failure by the Education Department to enforce even the most basic requirements for state accountability. The report concludes, for example, that the Education Department "has approved scores of accountability provisions in state plans that do not conform with the new law." The long-delayed release of the Education Department policies, said the report, "encouraged, but did not require, states to hold districts accountable for the progress of poor and LEP students, not just for overall progress."[xii] In other words, many states are already working under a virtual block grant arrangement and have not been held to key elements of accountability decided by Congress.

If state and local authorities are already dominant in decisions about Title I and very little control has been exercised for many years, why does the idea of block grants continually recur? The story of American federalism has been a continuing back and forth tug-of-war for power and control. The federal role in education grew considerably in the 1960s and it put the spotlight on sensitive issues of race and poverty more sharply than ever before in educational policy. State power recovered in the 1970s and surged in the 1980s, but potential federal leverage remained on the law books. I think that what is happening now is an effort to consolidate unchallenged state discretion and to produce a kind of education revenue-sharing in which the federal dollars, though a small share of state budgets, provide some discretionary money for state priorities while federal authorities tacitly agree to look the other way. In my opinion, this is a serious mistake because the uncomfortable questions about equity and program effects that need to be asked are usually being ignored at the state level.

Another critical role which should be played by the federal government in the implementation of Title I involves the

production and translation of research. For a century and a half it has been understood that the role of gathering data and disseminating solid information on educational practice is a role in which the federal government must provide leadership. Yet, David Grissmer, David Cohen, and other scholars involved in this project have noted that there is a very serious shortfall of investment in research and experimentation relative to the size of the Title I expenditures. It is as if we had a policy of continuously feeding billions of dollars into medical treatments that showed no evidence of effectiveness and simply adopted one remedy after another on the basis of our hunches. With a history of falling short, it is important to target spending on approaches that work and to hold school districts accountable for results. That would require federal oversight as well as continuing research to identify new approaches that can be shown to be effective. We still have very little convincing evidence of what to do about many of the basic problems of educating poor children, such as how to increase acquisition of basic pre-collegiate skills of reasoning and analytical writing in high school. The individual states have neither the capacity, the staff nor the desire to duplicate the kind of research and evaluation that is needed.

HIGH STAKES TESTING AS A DRIVER OF REFORM.

Another enormously popular current reform that many believe will "solve" these problems is high stakes testing. A number of states, particularly in the South, have placed a very strong emphasis on testing and assessment for three decades without significantly lowering achievement gaps or improving average achievement (special claims about Texas will be examined later in this chapter). The inappropriate use of testing is, however, rapidly expanding as a central element of state policy, strongly encouraged by the Clinton Administration. While I believe that Congress' decision to insist on accountability for Title I results in the 1994 amendments was appropriate, many of the uses of testing now spreading across the country are likely to worsen already desperate situations.

Assessment of academic progress is a basic necessity in education and public accountability for education of the poor is a very important goal. Setting a standard, however, is not the same as accomplishing a goal, and setting the wrong standard or using the standard in the wrong way can be destructive. Tests for diagnosing academic problems and targeting interventions to help students are invaluable. Those that punish students who have been in inferior schools without curing the inequality are unconscionable. Because of the inherent limitations of tests and the irreversible harm that can be caused by their inappropriate use, testing professionals recommend that no key decision about a student's life ever be made on the basis of a single test. They hold that the use of rigid cut-off points for such decisions is doubly inappropriate, since all tests have margins of error in their measures, the scores of the same student may well be different on different days, and any cut-off point represents an arbitrary definition of the level of appropriate knowledge.

At our conference at Teachers College in December 1998, Nancy Cole, President of the Educational Testing Service, strongly reaffirmed ETS' opposition to the use of cut-off scores in this way. It is wildly inappropriate and counterproductive to use such techniques when the cut-off score level is established through a purely political process. It is as if somebody decided that all Congressmen and Senators should be able to answer 80% of the questions on an intermediate calculus exam, announced that those who scored below the specified level were "mathematically illiterate" and published the resulting data as a measure of Congress' mental ability.

Yet, this is precisely what has happened in a number of states. A kind of politically destructive Gresham's Law seems to take hold, in which advocates for "higher standards" drown out those who caution against the consequences of misusing tests. In the extreme case, almost all students fail the tests and set up a chain of events whereby politicians praise their own toughness as they disrupt students' lives and undermine confidence in public schools. When such tests are used in ways that increase student dropouts and make the students unable to earn a living wage, the farce becomes a tragedy.

While high standards and good assessment are critical, they must be accompanied by timely interventions to ensure that students understand what is expected and receive the help they need prior to taking a test. Students are much more powerfully and positively motivated to learn in this way than by flunking tests and being required to repeat the same course. Policy makers should think about their own learning experiences before pushing for "reforms" such as high stakes grade promotion and graduation tests.

Florida was the first state to implement high stakes testing more than two decades ago. The state created major civil rights problems when it became apparent that a large share of its black students, who had fulfilled all their course requirements, would not graduate. This led to a lawsuit and a Federal court decision, *Debra P. vs. Turlington,*[xiii] postponing the test and requiring a variety of preparations before it was implemented. In spite of those protections, however, Florida still has the third lowest high school graduation rate in America.[xiv] Even though the vast majority of states increased testing and accountability requirements after the publication of the Reagan Administration's 1983 *A Nation at Risk* report, the next decade brought about no overall increase in achievement and witnessed an end to the decline in dropout rates.

If there were a clear and positive testing effect, it would be apparent in the many states which have implemented these reforms. Monty Neill's paper, commissioned for another volume by our project, shows that there is no relationship between mandatory high school graduation tests and improved performance in lower grades[xv]. In other words, the basic theory justifying such tests–that students rationally react to increasingly demanding requirements by learning more in earlier grades–has little support. If the basic premise upon which high stakes testing is founded is false, and its costs are so severe, then why is it being so widely championed as a panacea?

As states have rushed to adopt high stakes testing, there have been no significant gains in academic achievement. Table 5 charts the change in black-white test score gaps since 1971. The racial gap was at its lowest point in math in 1990 and in reading and writing in 1988 at grade four. At 8th grade, the year with the lowest gap in reading was 1986, writing was 1992, and math was 1986. The lowest gap in science was in 1986. The gap has increased by 8 points in 12th grade reading and 11 points in eighth grade reading since the low point.

This chart offers evidence of an end to declining racial gaps in achievement and a decline in graduation rates for both blacks and whites. Given this information, Congress should exercise considerable caution before imposing new tests and requiring the end of "social promotion" on states and school districts without very seriously considering the potential harm, which these policies can cause to the students Title I is intended to help.

TABLE 4: CHANGE IN THE BLACK-WHITE TEST SCORE GAP

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS LONG TERM TRENDS IN READING, MATHEMATICS, AND WRITING SINCE 1971

	Gap in First Available Scores			Lowest Gap			Most Recent Gap		
	Reading	Writing	Math	Reading	Writing	Math	Reading	Writing	Math
8th Grade	53	27	40	20	21	21	28	22	27
12th Grade	39	25	46	18	21	24	29	29	29

Sources: National Center for Education Statistics, T*he NAEP 1998 Reading Report Card, National and State Highlight*s; Jay Campbell, Kristin E. Voelkl, and Patricia L. Donahue, *NAEP 1996 Trends in Academic Progress*, Figure 2.

Teacher tests are the latest focus of the national testing enthusiasm. The new state teacher test in Massachusetts, which more than 40 percent of the applicants failed, for example, has stirred up considerable media attention. Policy makers can send out a message that they are tough on teacher quality when they impose such tests. This test, however, has not been validated and produces inconsistent results even for the same person over time. Such tests also tend to eliminate large portions of minority teacher training students, a major problem in a nation with a rapidly increasing percentage of non-white students and a serious existing deficit of minority teachers.[xvi]

THE TEXAS "MIRACLE"

Claims that the current wave of mandated high stakes tests produce educational gains tends to rely on evidence from Texas and North Carolina, which are frequently cited as models. By far the greatest attention is on Texas. While neither of these states is among the national leaders in academic achievement, they have made substantial gains on math achievement and they do have extensive testing requirements. Advocates have drawn a number of lessons from the experiences of these states, without carefully assessing their accomplishments or the policies and conditions that may have contributed to them. Many proponents of the recent Ed-Flex bill, for example, drew a connection between Texas' much touted success and increasing state discretion, since Texas was one of twelve states enjoying this waiver.

There are two major reasons, however, not to rush to assert that high stakes testing caused the gains. The first is that there are many other states with high stakes tests which have not reported such gains. The other is that both of these states have implemented a number of other reforms that research suggests can produce notable achievement gains. Texas, for example has lowered average class size, substantially increased educational spending, equalized funds for poor areas under a state supreme court order, invested heavily in teacher training, and held schools explicitly accountable for achievement of children in each racial group, forcing more emphasis on equity than is common in high stakes testing. This last factor is often mentioned in discussions of the strong gains in math of minority students tested in Texas. Texas requires accountability data by ethnicity and poverty not only on tests but also on attendance rate, dropout rate and completion of the State Board of Education's recommended high school program. This puts schools under significant pressure for equity. Both Texas and North Carolina have prosperous and growing economies that raise family income and stimulate an immigration of highly educated families from other parts of the nation.[xvii]

Of 35 participating states, Texas and North Carolina showed the nation's largest increases in fourth grade math scores between 1992 and 1996. Though they were slightly below the national average, Texas' eighth grade student scores also increased substantially, with the most rapid growth from 1990 to l992. North Carolina had the largest eighth grade growth during the 1990-92 period. In the 1996 eighth grade data, Texas showed a substantial growth in the percent of students performing at the proficient, but not the advanced, level.

In spite of all these reforms, Texas' student scores are only average. Its performance on the recently released National Assessment of Educational Progress in reading data shows, for example, that students' scores have not increased enough to be considered statistically significant since 1992.[xviii] The gains in math achievement that brought national attention to Texas came earlier, from 1990 to 1996, and are probably based on a number of factors that changed in Texas several years before that, since there tends to be a long lead time before reforms produce results.

In reading and writing, the picture was less encouraging as were statistics on high school completion. The Texas report in the National Education Goals Report for 1997 shows no significant gain in reading since 1992 and no significant gain in the graduation rate from 1990 to 1995. In addition, Texas excluded more students from testing than the national average[xix]). We do not know how Texas compares in high school gains because no state level scores have been published for 12th grade. The Texas testing program stops at tenth grade and the claims are based on lower grades. National NAEP trends suggest that there may be little relationship between basic skills gains and the higher order skills tested in high school since the high school scores show no long term gains.

In other words, the Texas story shows that something (or a number of things) positive happened in math achievement in elementary and middle schools in the early and mid-1990s, but that no similar breakthrough was reported in reading or writing. In any case, the state is within the average range in achievement at these grade levels and still has the nation's second highest dropout rate. The impact on high school achievement is unknown.

While I do not mean to diminish Texas' accomplishments, which are considerable, they do appear to have been blown out of proportion. The cause of these accomplishments is not clear and much of it occurred under several state administrations. Advocates attempting to draw broad conclusions about academic gains from the Texas record often ignore other states where their favorite reform (currently "high stakes tests") has not produced significant gains, and they rarely discuss the much higher levels of average achievement reported in several states without such policies.

Many other factors may be contributing to some modest part of the gains in Texas that have nothing to do with testing systems. To cite one example, Professor John Kain, of the University of Texas at Dallas, has recently reported a very large and rapid increase in black and Latino enrollment in suburban Texas schools. He reports, for example, a 24% increase in suburban black enrollment in just five years in the 1990s. These suburbs contain, of course, many of state's best schools, which, on average, have much higher levels of competition, expressed in average test scores.[xx] The relevant point here is to acknowledge that in a large state undergoing rapid socioeconomic shifts, it is highly simplistic to link academic gains to one specific element of a state's many-sided reform effort. If, for example, metropolitan Austin is generating many well-paid technical jobs and thus drawing in highly educated families, that part of the elevated scores reported from schools in this region obviously cannot be explained by the

existence of the TAAS test. Quite possibly the real lesson of Texas' gains is that significant progress can be made from a strong and consistent focus on a many-sided educational reform effort that includes accountability for equity carried out over many years.

It can be both short-sighted and counterproductive to place an excessive emphasis upon test scores without balancing this by considering graduation rates, and it is very important to examine the possible costs of the systems imposed in Texas. Texas has the second highest dropout rate in the U.S., seriously threatening the employability, further education, and income of its young adults. The impact of this record on the state's Mexican American students led to the filing of a major civil rights lawsuit against the state's TAAS test by the Mexican American Legal Defense and Educational Fund (MALDEF). A recent report by a Texas research center, the Intercultural Development Research Center, pointed out that, though the state had 50% minority students, 70% of the 147,000 students who were flunked in 1996-97 were minorities.[xxi] High flunking and dropout rates can, of course, help create higher average test scores, since lower achieving students will either no longer be enrolled in the school, or will be retained in a lower grade.

Another consequence of excessive reliance on test scores is that it creates a powerful incentive to manipulate and cheat. If a school's reputation rides on its test scores, there is a great temptation for teachers and administrators to allow extra time in the test room, to spend scarce resources on "teaching to the test", to find reasons to disqualify low scoring students, and, in the worst case, to change the responses on the answer sheets. In 1998, Texas excluded 15% of its students from the fourth grade testing and 8% from the eighth grade testing because of limited English proficiency or learning disabilities.[xxii] This is not a criticism of the decisions made about exclusions but rather a recognition that many decisions shape the tested population. In early 1999, Texas reported that it is investigating excessive erasures and corrections in a number of school districts that could be related to reported test scores and threatening criminal action against violators.[xxiii]

Relying too much on test scores and too little on other outcomes is likely to prove particularly destructive for minority children. Heavy pressure to produce higher average school test scores can lead to higher rates of grade retention, increases in special education classification, a disincentive to transition students from bilingual to English language classes, and an increased dropout rate. In some cases, the curriculum in high poverty schools threatened with sanctions is displaced by test-taking drills. Because urban educators understand that it takes struggle and hard work to achieve relatively small gains in average test scores, there is a temptation to take the easy way out by testing fewer students with low scores or teaching students test taking skills.

BEYOND TEST SCORES: LOOKING AT DROPOUT RATES AND OTHER OUTCOMES.

Flunking students and failing them on tests leads to increased dropout rates according to a number of prominent researchers[xxiv]. Many states and school districts are obscuring this problem by reporting misleading dropout data, indicating a far higher portion of students are finishing high school than actually are. In California, for instance, the state is reporting a dropout rate of only 4%, but a comparison of recent graduates with students in the state's schools four years earlier, indicates that more than 40% of all the state's black and Latino high school students are not graduating. Any policy that would predictably increase such dropout rates deserves to be closely questioned. Who could defend such tests if they produced no gains in achievement, resulted in substantial additional costs,

embittered students by maintaining them in ineffective classes, and substantially increased dropout rates?

As the standards-based reform movement increasingly dominated state education policy in the 1990s, the dropout rate has increased for both blacks and whites, contrary to most reports. If students who do not receive high school diplomas are defined as dropouts, the numbers have actually increased significantly. The impact has been masked by a large increase in students receiving GED's, but GED's do not have the same benefits for students as completing high school.

TABLE 5

TRENDS IN HIGH SCHOOL GRADUATION, 1988-96[xxv]

	1988	1990	1992	1994	1996
Black	76.1	77.9	75.9	75.2	73.0
White	84.4	84.8	85.7	84.2	81.0
Latino	54.4	54.8	56.6	54.2	55.2

Source: Current Population Survey of 18-24 year-olds.

As a rule, students drop out after exhibiting a number of problems—including truancy, flunking courses, being retained in grades, and disruptive behavior, which often unfold and intensify throughout their school careers. For instance, being older than the other students in a grade is a very strong predictor of ultimately dropping out of high school. Even before the widespread recent action against "social promotion" a very disproportionate share of minority students were behind grade level, including about half of black males. (In general, boys are more likely to fall behind than girls in the total population). The 1999 report of the National Research Council requested by Congress[xxvi] comments: " If these rates and differentials in age-grade retardation are characteristic of a schooling regime in which social promotion is perceived to be the norm, it is important to consider what we might observe when that norm has been eliminated."[xxvii]

EXPANDING EFFORTS TO HIGHER GRADES.

Research clearly shows that dropout rates may be lowered with appropriate and timely interventions,[xxviii] yet Congress has never passed a significant program addressing this goal. In fact, this country has never developed a serious program of research and experimentation with better methods to achieve success in high schools. There has been a school-to-work and tech-prep effort but it has been aimed primarily at the small minority of students in voc-tech programs.[xxix]

One of the problems of concentrating Title I funds on the early grades is that very little of this money is targeted to high schools, where interventions for students are desperately needed. Successful high poverty high schools are much rarer than successful high poverty elementary schools. James McPartland's paper in this volume argues very strongly that we cannot effectively increase the success of students in high poverty schools unless we recognize that early education does not inoculate students against the problems of being a poor teenager in a ghetto or barrio community, and that the problems faced at the high school level are more difficult to address than in the elementary years.

The test score gains that have been made in high poverty schools are almost always at the elementary and middle school level. In the three decades of the National Assessment of Educational Progress, the science score for 17 year-olds is still below the 1970 level. Though it was even lower in the l980s, the math and reading scores haven't changed significantly and the writing score is slightly lower. Considering that this has been a period of very intense focus on testing, increased science and math graduation requirements, and rising college entry requirements–the record is not encouraging.

THE REFORMS OF THE 1990S. CHARTER AND MAGNET SCHOOLS

Another aspect of Title I that needs to be closely examined by Congress during its next reauthorization involves the magnet and charter school provisions. Charter and magnet schools represent two other examples of currently popular school reform proposals which are being widely praised with very limited evidence backing up the charter school claims. In my opinion, their popularity stems in large part from the fact that they are essentially proposals to escape the conditions in existing high poverty public schools.[xxx]

The theory behind charter schools seems to be based on the belief that the public schools are seriously flawed because they are public and that turning over authority to non-public groups or companies will produce a higher quality of education. Many hundreds of such schools have now been formed, yet recent test scores from Arizona and Michigan suggest, for example, that they perform on a par with public schools enrolling similar student bodies.[xxxi]

Like other popular reforms, charter schools do respond to some real problems, but at some equally real costs. Some may be effective, for example, in overcoming the inertia and

bureaucratic paralysis which often afflict older inner city public schools, serving high poverty communities. In these schools, principals often have little or no power to remove ineffective leadership, union agreements tend to lock in the status quo, and teachers with choices often leave. The chaotic and often contentious nature of urban politics leads to cynicism and defensiveness among school leaders, who end up fighting to hold onto their jobs instead of curing educational problems.

Charters, magnets schools, new small schools and reconstituted old schools all attempt to overcome these problems with smaller, more manageable infrastructures run by new teams sharing an educational vision. This promise of reduced bureaucracies can be extremely appealing to school leaders coping with problems that suburban officials could not even imagine. However, these proposals contain some serious drawbacks. The federal charter school initiative lacks some vital policies to protect minorities and the poor that are typically found in magnet and public schools. Some refuse to provide the civil rights protections that public schools must provide, for minority, handicapped, and non-English-speaking students. Magnet schools do tend to place greater emphasis on equity and desegregation goals than charters. Yet, they all must still confront the same educational and social difficulties as the public schools. Congress and the Administration have chosen to increase charter school rather than magnet school funding. There should be a good look at the comparative evidence and consideration of the possibility of reversing these priorities.

SUMMARY AND CONCLUSION

Our conclusion is simple and stark. Title I must work if there is to be any hope for equal educational opportunity in the United States. With the end of desegregation and affirmative action, and with the rising barriers to high school graduation and college enrollment, we must improve the quality of education for low income students, and Title I remains the largest resource we have to accomplish that.

This bill should be based on evidence, not on hunches or anecdotes. If Title I is the ark that carries vulnerable children from dysfunctional and overwhelmed schools to hopeful futures, it has to be built with the greatest care. The stakes are far too high to operate without a map to the other shore. The safety nets are being pulled away and students will have to be able to perform at higher levels, or face lives of devastating failure. With the cutback of civil rights and many social programs, and the disappearance of low-skill jobs, this program is one of the only remaining resources for our most vulnerable children.

The studies in this book suggest that the path to a more powerful impact for Title I is a hard and long one. Improving outcomes in concentrated poverty schools in a society where social class is very strongly related to educational preparation, peer group benefits, and the ability of schools to attract the best prepared teachers, is very difficult. Tough decisions will have to be made about shutting down failing programs and shifting or retraining existing Title I staff. We need to create the conditions in which schools can focus on programs that can demonstrate success and maintain resources there until efforts are borne out.

There is now enough information to demonstrate credibly that Title I can actually bring about educational benefits. But it will not do so if we simply graft onto ideas and proposals that have popular ratings in the opinion polls. A chaotic series of inconsistent or ineffective reforms will only hurt the goals that are widely shared in the Congress and the country–to give poor kids a fair chance in school.

Instead, the studies reported in this volume suggest that Title I dollars should be directed toward:

15. funding programs that have solid evidence of impact on learning
16. permitting sufficient autonomy for serious long-term implementation of school wide reforms--not disrupting them with inconsistent policies and assessment practices

17. research and experimentation with other alternatives—independently evaluated with random assignment experiments when possible
18. lowering class size in the early grades
19. using choice , magnets, and other techniques to permit students to transfer from high poverty low-achieving schools to more successful schools, as prescribed in the l994 legislation
20. seriously enforcing accountability provisions supposed to accompany authorization for school-wide use of funds
21. extending Title I programs to higher grade levels and higher order skills, including a serious high school program
22. encouraging deep, long-term retraining of teachers to implement stronger curricula supported by tests assessing the more complex skills involved in those approaches
23. sustaining long-term commitments to maintaining strong curriculum materials, appropriate assessments, and serious teacher education programs
24. ending funding for existing policies where no benefits can be documented in independent evaluations
25. providing new policies and incentives to get good teachers and administrators to work in Title I schools and to stay there
26. focusing assessments not only on raising average achievement in schools but also on raising the achievement of each group.
27. conducting more accurate assessments of limited-English proficient students. We need research to find the most appropriate mix at various ages and levels of English acquisition of native language tests, tests of English language development, and English language tests. In high poverty schools with concentrations of children not yet fluent in English, it is impossible to separate issues of language from issues of Title I programs.

Much larger research efforts are needed. Incredibly, despite billions of dollars spent on Title I programs, there has been little serious research. It is urgently important to concentrate the use of dollars on some of the few programs that have reasonable evidence of success–many fewer than recent policy assumes–and on disciplined research and experimentation to discover and independently assess more successful approaches. Billions pumped into hiring teachers aids, extra teachers without special skills, and materials and technology not seriously evaluated has wasted a great deal of money. Poorly targeted and unevaluated resources need to be cut off in schools not showing results and redirected to expenditures producing more educational growth and increasing graduation and college entry by low income students.

There are no easy answers and most programs have not worked well. It is as hard to find ways to make systems of profoundly unequal schools provide substantially better schooling as it is to find a new medicine or to devise a new hybrid seed. We need serious investments to expand our limited knowledge. This means that much more money is needed for research and it needs to be spent differently and with a minimum of political interference if there are going to be convincing and useful results. There have been very few serious experiments or long-term studies, the research function has sometimes been politicized, and sensitive issues have often been skipped. We must improve this record.

We can hope for amazing changes but must prepare for a long and tough battle. At present there is far too little discernible impact from this large program and signs of growing inequalities. The basic model of education reform for the past fifteen years, emphasizing more tests and higher standards, has not produced significant gains in the nation or among the beneficiaries of Title I. There is now enough information to show that Title I can actually have benefits but that it requires very disciplined use of the funds and focused educational leadership at the district and school level. Both the 1994 reforms and the Obey-Porter legislation contain approaches that can be beneficial if properly developed and implemented, but that has not yet been done. It is time to get busy using the dollars for things that work and developing more knowledge about extending these benefits.

We do not think that commissioning and publishing research fulfills our responsibilities in this work. When universities and researchers work in the best way, scholars put forward what they have learned and what they think it means and then face tough questions from others who try to

poke holes in their work and suggest other possible implications of the findings that remain after critical examination. We have already gone through this process in our conference, our ongoing discussions and two levels of editing. We know, however, that policy makers, administrators, and educators with experience working in this area will have further questions and want to test the strength of the evidence and the interpretations. We believe that the papers in this volume provide the best available information, but that there is always more to learn.

In order to facilitate the fullest possible exchange of information at the lowest cost, we are creating a list-serve discussion group which will reach all of our researchers and which will enable those interested to participate in an ongoing dialogue. I know that our researchers share a desire to produce the most accurate possible findings and to be of assistance to those who must make the key decisions as the process evolves. You can connect with the e-mail list-serve by sending an e-mail message to the following address:
MAILSERV@HUGSE1.HARVARD.EDU. with a message consisting of only the following:
SUBSCRIBE TITLE_I-L followed by your name. We provide directions and a list of phone, fax and e-mail numbers of the authors of this study in the appendix.

If we learn of errors or important missing facts we will send the information to everyone on the list-serve.

The discussion and the circulation of new information will make both the policy process and our future book stronger. We hope that we can be part of a process in which policy makers and educators commit themselves to accomplishing more for those who have the least chance for success in our society, where we all try to find the best possible information on effective programs, and actually create effective schools to give excluded children a chance to make it in the mainstream. Millions of children, teachers, and parents struggling to find opportunity amid poverty deserve our best efforts.

BEYOND COMPENSATION: RETHINKING TITLE I BASED ON RESEARCH

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INTRODUCTION

The idea for this book was born from the notion that Title I, the largest federal program in elementary and secondary education, merited scholarly attention, and that the U.S. Department of Education, for a variety of reasons, might not be in the position to commission it. Having worked at the federal level in education from 1992 to 1996, I understood the valuable contributions that scholarly findings could – and should – make to policy deliberations. The challenge was to find scholars who have identified findings that would have implications for the reauthorization, and to convince them to present and explain them. The Education Department, of course, consults with scholars regularly, listens to the recommendations of independent review panels, and commissions millions of dollars worth of evaluations of the Title I program. The idea, simply put, was that the odds were greater that scholars who were not acting in an official federal capacity might make bolder recommendations about fundamental policy changes than those who were.

The other goal for the book – one I believe we achieved – was a certain synergy that resulted from combining the diverse ideas of top researchers and thinkers across the nation. In assembling this work, we looked for diverse methodologies and scholarly disciplines. We sent out a nationwide inquiry to tap into the expertise of university researchers and independent research organizations. We sought everyone from longtime observers and analysts of Title I; to researchers reporting findings on K-12 reform models that might be applicable to a critical mass of schools; to research staff analyzing data in their own districts.

During the months of conversation and negotiation with this community of scholars/researchers/experts, we posed two questions: What research findings can you present that shed light on improving outcomes for disadvantaged students and for the schools they attend. What are the implications of these findings for policy? We did not know at the outset whether a coherent story would emerge. To a surprising degree, we believe, there is one; and this piece is an effort to explain it. The collective message is: if Congress and the Department will accept the challenge, the Title I law, with some fine-tuning of incentives toward a focus on high-quality instruction, can become an engine for reform that serves the growing numbers of poor students in our schools. We would be pleased if this "idea book" begins a conversation with the diverse constituencies who will be attempting to bring research into the reauthorization discussions.

The Authors' Findings About Factors Influencing Achievement

These papers offer much new evidence about improving student achievement for Title I students. These range from statistical evidence about the benefits to students of coherent instruction, to the possible drawbacks of too much decentralized school-level planning in the implementation of schoolwide projects.

An overview of seven major findings from these pieces:

- State accountability systems that fail to look at performance of minority and low-income students do not produce the appropriate kind of accountability. In contrast, states that are doing so have already seen positive results. For example, in Texas, where the state holds schools accountable for the performance of sub-groups of students, the performance gap on the Texas Assessment of Academic Skills (TAAS) between black and white students has been reduced by 30 percent between 1994 and 1998.

- From an analysis of instructional and curriculum practices from roughly 250 California schools and outcomes on the state assessment, it is clear that student social status is still the foremost predictor of achievement. However, reformed instructional practices also matter, and were found to account for about a third of a standard deviation of CLAS performance levels. Curriculum is central to improving the educational opportunity of Title I students. Enriching the curriculum for all students is a difficult and long-term process, one that normally offers less to schools with high concentrations of poverty.

- Decentralization for teacher development of curriculum and collaboration in poor schools may actually produce losses in student achievement over the longer term. Teachers who are overextended with decisionmaking responsibilities in multiple domains (i.e. school governance and coordination) had students who gained in achievement at relatively low rates.
- Concentrated poverty in both schools and neighborhoods is a central educational problem that lowers student achievement. An analysis of data from three districts reveals that the prevalence of poverty in students' neighborhoods is as strong a factor in student achievement as is the individual student's own socioeconomic status. Much of compensatory education is an uphill battle to deal with these consequences.
- Class size reduction in the earlier elementary grades is a factor that has been shown to be associated with students' higher achievement in analysis of multi-state data from the National Assessment of Educational Progress (NAEP). It is important that the Tennessee class size study has shown that reducing class size between kindergarten and third grade had the largest effects on black students and low-income students, as measured by those students eligible for free lunch.
- Evidence about the effects of externally developed versus locally developed schoolwide models on student achievement is still scarce. However, one study of Tucson and Memphis has shown positive findings in both cities for Title I schools using external designs compared to schools using locally developed designs.
- The role of the local school district in assisting schools with the phases of selection and implementation of schoolwide projects, whether locally or externally developed models, appears to be a critical factor in implementation success.

The Controversy Over the Effects of Title I

There are two prevailing views about compensatory education as Congress faces the upcoming reauthorization of Title I of the Improving America's Schools Act. The first is to see Title I as a continued failure, a program that still has not produced gains for disadvantaged students throughout its history, even as it has supported their achievement enough to prevent the bottom from falling out from underneath them. The other prevalent view is to see the 1994 law as an implementation failure, a story of missed connections throughout the levels of governance of the program. If more states and districts could set high standards, if more schools would learn about the law and take advantage of the law's new flexibility, and if the Education Department had more capacity to enforce the law, then the program would likely yield better outcomes.
Critics have a point that the Title I program has failed to produce gains in participants' test scores that would narrow the achievement gap between participants and non-participants. Despite the many outstanding successes in individual high-poverty schools, the Education Department's *Prospects* evaluations have shown that the gap between high and low poverty schools is not narrowing. But Jencks and Mayer, representing the perspective that compensatory programs may have had an important effect on the very poorest students, cite trends in the National Assessment of Educational Progress (NAEP) showing "the proportion of 17-year-olds with very low reading and math scores has fallen substantially since the early 1970's."[1] While these authors acknowledge this is only one indicator, it has been borne out in other meta-analyses, or syntheses of thirty years' worth of findings from studies of Chapter I/Title I effects (see Borman and D'Agostino, 1996).

Defining the Problem

The pieces in this book tell a different story: that Title I, with almost $8 billion a year invested in the education of disadvantaged students, has failed to produce outcomes because of the way it is structured. It has not evolved into a coherent, focused program with accountability for results. It has largely served as program that distributes funds to recipients who have not been held accountable for clear outcomes or timelines for implementation. The legislation does not have

provisions that tie receipt of funds to effective interventions, either specific state or district-level initiatives or school-level programs that research has linked to higher outcomes.

As Gary Orfield explains in his analysis of the politics of the reauthorization, it is the wrong moment to dismantle the federal role**,** just when economists and educational researchers are learning more than ever about what kinds of interventions work. David Grissmer and Ann Flanagan explain that a new consensus is emerging that "money invested in certain programs matters a lot for minority and disadvantaged students, but less so or not at all for more advantaged students." If we examine findings from high-quality, planned variation studies – and can thoughtfully plan more of them – It should reaffirm the national commitment to Title I, because we learn *how* money matters. The program can point to a rich legacy of offering poor communities the extras that have made a difference. But the system lacks the capacity to spread its successes and learn from its failures – characteristics of a "non-system."[2]

Nevertheless, there are critical legislative and administrative changes that can be made to transform Title I from a compensatory program into a program that can bring successful practices for disadvantaged students to scale. What are some of the findings from these pieces that can inform the reauthorization?

DECENTRALIZATION: THE PROBLEM WITH A THOUSAND FLOWERS BLOOMING

High levels of decentralization and flexibility in the state and local administration of Title I funds by themselves are insufficient to focus instruction in ways that will result in better outcomes. While schoolwide programs are an important step toward coherent, less fragmented instruction, de facto block grants to schools do nothing to ensure stronger instructional policies on the scale that is needed.

A principle underlying the 1994 legislation was that high-poverty schools, if given great flexibility in use of their funds, would be able to learn about or invent, and subsequently implement programs that would educate students to high academic standards. These changes were based on earlier research suggesting that compensatory programs tended to fragment the school organization, which in turn weakened instruction.[3] States, similarly, were able to receive Departmental waivers, submit consolidated plans, and thus politically and administratively unite their Goals 2000 and Title I funds. Title I was to be the engine that drove individual states' standards-based reform efforts.[4] While a certain amount of school-level flexibility is necessary once goals have been specified, this massive decentralization is simply not working in a way that bring**s** success to scale.

The authors' findings support this in many ways. D'Agostino's findings from *Prospects* data, for instance, show that decentralization for teacher collaboration or curriculum planning in poor schools alone may actually produce lower levels of student achievement. When teachers are expected to invent their own programs and curriculum, they are faltering because find themselves overwhelmed by the very difficult conditions in these schools. What makes a positive difference in achievement, he finds, is when teachers' collaboration within a school with social supports for students and staff.

The new Title I legislation should recognize this by introducing a multi-level needs assessment during the various phases of effective implementation of schoolwide projects.

The current law requires only that schools desiring to become a schoolwide project conduct a needs assessment, but only mentions assessing student-level needs. This process ought to include not only assessment of students' needs; but also those of school staff (the service providers), and the overall, organizational needs of the school. This is Jerome D'Agostino's

conclusion about how the law needs to change, based on his analysis of the demands that implementation of a schoolwide project makes on the school as organization.

We can expect that if we continue to block-grant thousands of dollars to individual high-poverty schools – no matter how much we believe in flexibility – we will continue to see weak outcomes. High-quality learning opportunities are no accident; they are the result of coherent state policies, as David Cohen and Heather Hill's evidence shows. It is a state's long-term commitment to standards, assessment, and content-based professional learning opportunities that provide the greatest assurance of increasing disadvantaged students' opportunity to learn. If the central problem in improving Title I is using money in a way that has the maximum effect on instruction, the provisions for ensuring this must be strengthened.

Cohen and Hill, using a data set to analyze how the various elements of systemic reforms in California were accessible to students, were able to quantify the comparative effects on Title I students' achievement under these systemic policies. Their work further strengthens the case that poor students' learning does not happen by chance, and that Title I dollars should as directly as possible to improving curriculum and instruction.

COHERENT INSTRUCTIONAL POLICIES AND EFFECTIVE PROGRAMS

- There are specific instructional elements that must be in place and accessible to disadvantaged students over the long term (at district, state, and school levels), and the politics of states' standards agendas have not ensured disadvantaged students' access to them.
- Title I must increasingly fund effective and rigorously evaluated programs, and offer incentives to states and districts to learn about and adopt them, while also increasing the flexibility to discontinue programs and strategies that are not working.

Curriculum is a vital part of opportunity, and enriching the curriculum for all students is a difficult, long-term process that normally offers less to schools with high concentrations of poverty. It requires clear definition of learning goals, talented teachers, and their continued professional development in programs that emphasize subject-matter content. Yet when federal policies grant the degree of latitude to states that they currently do to use funds in supporting instructional policies, there are two major problems. The first is that state standards agendas are often so highly politicized that the standards' survival, let alone stability, is often threatened. Second, the standards that states specify for "adequate" performance may be way too low, meaning that there is an overall inertia on the part of the states in identifying schools in need of improvement.[5]

In "Instruction, Poverty and Performance," Heather Hill and David Cohen examine Title I students' access to the elements of effective mathematics instruction in California schools. Their findings show that reformed instructional practices do matter for Title I students, even though they can only account for one-third of a standard deviation of difference between them and their more advantaged counterparts. Further, this piece stands as an illustration of the particularly damaging consequences for poor and minority students when a state's standards system is sabotaged by a political battle. While the learning of all students throughout the system suffers, the loss of instructional building blocks for Title I students is bound to have especially damaging effects. Preparation for and recovery from natural disasters has always been a federal priority, but we have no analogous federal role for safeguards ensuring disadvantaged students' access to the elements of high-quality instruction – both curriculum and pedagogy – when politics threatens their stability.

The general direction of federal policy has been to grant states maximum discretion in selecting instructional policies, then trust that Title I can be integrated with state policies. Cohen and

Hill's findings in this piece should cause Congress and the Department of Education's leadership to think differently about the program's instructional policies. Hill and Cohen suggest that federal policy can take steps to specify that teachers' professional development in high-poverty schools is as rigorous and grounded in the subject-matter knowledge of the standards as that of teachers in more affluent schools.

A Word of Caution: The Premature Marriage of Obey-Porter and Title I

In 1997, Congress enacted the Obey-Porter legislation, which gives added financial support for adoption of "whole-school" reforms. The Obey-Porter program gives $145 million to state education agencies in FY 1998, to be awarded to schools through a competitive grant process; $120 million of this money is earmarked especially for Title I schools.

The passage of this law reflects a growing national consensus that governments should encourage the adoption of programs that have been proven effective by research.

Comprehensive school reform is a means to improve student achievement through reorganizing and revitalizing entire schools, rather than implementing isolated programs. It uses well-researched and well-documented models for schoolwide change that are supported by expert trainers and facilitators. [6]

This is absolutely correct; the pieces in this volume repeatedly stress the importance of federal support for programs that have been reliably tested and can be transferred across educational settings and produce learning gains. However, the cautionary note about Obey-Porter is that there is still scant evidence that many on the list of programs the legislation proffers have been "proven effective." Very few models have been evaluated rigorously enough to make that determination. Until the field knows more about program effectiveness, we ought not to encourage federal programs that offer schools incentives to adopt them too quickly. While the law indicates that its list of 17 models are meant to serve as suggestions, the program clearly serves as an incentive for Title I schools to sign on to one of the 17 designated models.

Further, as Ross et al. note in this volume, the Obey-Porter legislation is not specific about how the schoolwide programs it supports will be evaluated: "Unfortunately, federal policies for both Title I and the Comprehensive School Reform Demonstration program are vague regarding the expectancies, standards, and procedures for conducting evaluations and disseminating results" (p xxx). Without provisions for adequate evaluation, the danger for Title I is that policymakers will look too quickly at Obey-Porter schools for evidence of what whole-school reform models should produce in high-poverty settings. The better course is to recognize honestly that the field does not yet have such a strong evidentiary base; and to support planned experimentation in diverse settings, paired with rigorous evaluation. After all, we should attempt to learn from locally developed schoolwide projects, many of which will produce impressive results that should be widely disseminated.

MAPPING OUT A DISTINCT ROLE FOR DISTRICTS

There needs to be a more explicit connection between the federal level and the district. The district is the institution that can support, assure, and monitor schools' needs assessment and implementation of schoolwide projects. In other words, districts should be given more authority for holding high-poverty schools accountable for outcomes, including the authority to discontinue effective programs funded by Title I.

The district should become the primary unit responsible for helping schools select the most appropriate programs for the adoption and implementation of schoolwide programs, and holding them accountable for specific outcomes. Districts must be given the capacity to evaluate

outcomes for "proven effective" programs versus results for locally developed schoolwide projects. And the federal provisions that allow districts to consider measures for deconcentration of poverty should be strengthened because students' achievement is related to the poverty of their neighborhoods, not just their own poverty.

This recommendation is not new. Scholars concerned with compensatory education have long highlighted the importance of a federal role that would more productively support local educational agencies. In 1978, for instance, Paul Berman and Milbrey McLaughlin recognized the importance of districts in implementation of federal programs, because "school district behavior is inherently variable. Local school districts differ in the problems they have; in their capacity to deal with their problems; and in their culture, structure, and setting….phases of the local change process require different types of technical assistance."[7]

Districts' Role in Enhancing Evaluation, Implementation, and Accountability

The research we present offers some specific suggestions about how the federal government could finally become the more active partner in implementation that Berman and McLaughlin envisioned twenty years ago. Bodilly and Berends argue for a federal role that more explicitly recognizes the district as the central arbiter of accountability for schoolwide projects, which is increasingly the crux of making Title I work. Districts should provide a regulatory and political environment that makes it possible for schools to implement comprehensive reform, they recommend. In their study of the role of districts in overseeing implementation of the New American Schools designs, they observe that districts played an essential role in the matching and selection between a particular model and the individual school. For Title I, the importance of this finding is that the district must be central to accountability: as they assist schools in adopting suitable schoolwide projects, they should be able to agree on specific outcomes in a fixed time frame. Flexibility for schoolwide projects does not mean the district leaves them alone and assumes they will produce good outcomes; instead, school and district negotiate the terms of implementation from the beginning, and the district holds the school accountable if it fails to live up to its end of the bargain. Districts should not force schools to accept particular designs; Bodilly and Berends found that such schools lagged in their implementation.

The importance of districts understanding more about the phases of schoolwide project implementation through formative evaluations is explained by Ross et al. Their argument is that districts can not intervene to make "mid-course corrections" in schoolwide project implementation unless they understand more about how the projects work, not just achievement outcomes. While achievement data are always vital for summative evaluations, these may not be sufficient to help districts benchmark where schools are in the implementation process. Whether it is a broader list of programs that have been proven effective in specific settings or building on findings like Hill and Cohen's about how standards-based reforms matter for disadvantaged students, Title I should become a vehicle for building the knowledge base. Ross, Alberg and Nunnery's research is able to offer a comparison of outcomes in the Memphis City schools for locally-developed versus externally developed schoolwide projects. They found greater achievement gains for externally developed programs, such as Roots and Wings. But the larger point is that they were able to make these kinds of comparisons at all. Districts ought to be given greater federal resources to carry out this important form of evaluation.

Flexibility as Two-Way: Initiating the Promising, Discontinuing the Ineffective

Autonomy for schoolwide projects is also vital. As districts and their schools eligible for schoolwide project status negotiate "matches" of schools with designs that fit their needs, and implementation proceeds, the schools "…must have increased site-level control over their

curriculum and instruction, their budgets, their positions and staffing, and most essentially their mission" (Bodilly and Berends, p. xxx).

Two changes this suggests for the Title I reauthorization are: 1.) Granting greater flexibility for both schools and districts to be able to terminate ineffective programs or fire inadequate personnel. 2.) Encouraging districts to reduce categorical mandates for Title I spending that make it difficult for schools to spend "between stovepipes" (i.e. pooling funding for professional development, technology, or other areas of need). Title I should provide for a flexible structure to help schools discontinue ineffective programs, not just adopt promising new ones. A school or district ought not to have to battle a regulatory structure that makes it difficult to adopt to changes in local needs.

Neighborhood Poverty and Lower Achievement: A Formidable Relationship

The valuable contribution that Steve Schellenberg makes to the discussion of a new federal-district role is his finding that "the prevalence of poverty in the neighborhood is as strong a factor in student achievement as is the student's own economic status" (p. #). In fact, his data from three districts shows that more affluent students receiving no lunch subsidies "are achieving much less if they live in impoverished neighborhoods." The implication for federal policy is that the districts with the greatest geographic concentrations of poor children should be receiving proportionally more resources.

His findings suggest that the ambitions for curricular improvement and raising of quality of Title I provisions may face an uphill battle against conditions such as exclusionary zoning and concentration of residential poverty. After all, district policymakers interested in equity have very limited alternatives for reshuffling poor children within the city limits in hopes of improving outcomes: as he points out, "in a district with 60 percent of students on free or reduced-price lunch, simply evening out the schools would mean that everyone has 60 percent poor children" (p xxx).

The current Title I legislation contains a provision that could assist districts with facilitating intra-district transfer programs. The law specifies that students in failing schools have the right to transfer to other schools, and funds may be used for transportation costs.[8] But too often, district-level administrators in metropolitan areas have not been made aware of this alternative and this means that the political conversations that ought to take place between urban and suburban educators are not. Congress should strengthen this provision, and the Department of Education should promote demonstration projects that would offer examples of voluntary, workable models that would alleviate the effects of neighborhood poverty. If we can envision Title I students gaining educational benefits only within the limits of their neighborhood, we may not be getting the optimal return on our national investment.

To summarize, the new legislation ought to highlight a central role for districts in oversight and implementation of schoolwide programs. The law should ensure that there is enough regulatory flexibility and equally important, dissemination to districts of detailed information about effective comprehensive, whole-school reform models.

BALANCING THE INVESTMENT: MAXIMIZING EARLY INTERVENTIONS AND LOOKING BEYOND THEM

The present paradigm of compensatory education that supports mainly early intervention is too narrow. The program also needs to meet the needs of at-risk students throughout their educational careers in the upper grades.

Title I is meant to be a national investment. But as with any sound investment, its holder periodically must balance and diversify its portfolio somewhat. James McPartland presents an

argument that the program's current framework of spending mainly on the early grades fails to adequately consider disadvantaged students' learning needs in later years. Because students' cognitive needs change and their skills mature, there are numerous opportunities for compensatory education to increase the chances of students' success in school:

> *At first, reading requires the decoding skills and vocabulary development to recognize words and sentences from the printed page. But many students who have mastered these rudimentary skills have difficulties in applying reading comprehension strategies to engage with complex written materials and to read for critical understanding. The learner from a poor family and neighborhood where frequent reading of a variety of materials is not the norm will be likely to need extra help not only with the rudimentary reading skills of the early grades, but also with the higher order reading comprehension strategies and competencies of the later grades.*[9]

Any solid investment portfolio is well-balanced, and so should federal education resources, he argues. Students are at-risk of educational failure well beyond the early years, and Title I should recognize this by mandating that a fixed minimum amount of funds should be allocated to middle and high school grades. Christopher Jencks and Susan Mayer explained the effects of early grade participation in compensatory programs this way: "Most evaluations show that children who are enrolled in these programs learn somewhat more than comparable children who are not. But once these programs end, their benefits appear to fade. They are not a permanent vaccine against the costs of living in the wrong family or attending the wrong schools."[10]

Class Size Reduction in the Early Grades –
A Valuable Example of Planned Experimentation

Grissmer and Flanagan present evidence that class-size reduction in lower grades is strongly associated with higher average state scores on the National Assessment of Educational Progress (NAEP). Both the original study of the large-scale class-size reduction in Tennessee and a later re-analysis reveal that the effects in achievement growth were larger for black students and those receiving free lunches.[11] While we do not yet know enough about *how* teaching and learning interactions are different in small classes, he writes, we do know that reduced pupil-teacher ratios are associated with higher than average state scores (controlling for family differences).
Since fifty states are attempting very different approaches to educational policymaking and improvement, he argues, Title I ought to plan research and evaluation that would capitalize on this advantage. Instead of a program that sends money to be spent in an infinite number of ways based entirely on local discretion, Title I research and evaluation should "identify successful and unsuccessful approaches, define the context in which the programs work best, and improve our understanding about what policies work and do not work for specific kinds of children" (p. xx). In other words, we are sitting on a multi-billion dollar annual investment, and the current policy environment is one rich in its naturally occurring variation. The isolation of the positive effects of class-size reduction for poor and minority students is a critical finding – in fact, one that should be reinforced in this reauthorization. Yet the even larger point is that we would be wise to plan more systematic experimentation via Title I – an idea that is by no means a novel one.[12]
In March 1997, the President's Committee of Advisors on Science and Technology Panel of Educational Technology noted that an important part of improving the federal role in education would include initiation of a major program of experimental research. Their recommendation reads:

> *Whereas some 23 percent of all U.S. expenditures for prescription and non-prescription medications were applied toward pharmaceutical research in 1995, less than 0.1 percent of our nation's expenditures for elementary and secondary education in the same year were invested to determine which educational techniques actually work, and to find ways to improve them. The panel strongly recommends that this figure by increased to at least 0.5 percent (or about 1.5 billion annually at current expenditure levels) on an ongoing basis. Because no one state, municipality, or private firm could hope to capture more than a small*

> *fraction of the benefits associated with a significant advance in our understanding of how best to educate K-12 students, this funding will have to be provided largely at the federal level in order to avoid a systematic underinvestment (attributable to a classical form of economic externality) relative to the level that would be optimal for the nation as a whole.*[13]

Title I, it stands to reason, should be a major mechanism for addressing the Panel's recommendation. Without the ability to spread its own successes and learn from its own failures, Title I develops further features of a "non-system."[14] Again, however, we can not expect Obey-Porter to be the engine for improving systematic knowledge about improvement of practice, when rigorous evaluations have not been specified and the evidentiary research base is still weak. Furthermore, the rapid timeline for program adoption and implementation creates the wrong incentive when we know that selection of an appropriate program requires time.

ACCOUNTABILITY MEASURES: TIPPING THE SCALES TOWARD CONTINUOUS IMPROVEMENT FOR ALL GROUPS OF STUDENTS

Content and effective interventions are only part of improving Title I. The last critical piece is providing incentives for states to modify their accountability systems so that Title I students are not overlooked.

When Goals 2000 and Title I were politically and legislatively wedded in 1994, it was planned as a policy mechanism for gradually ending the over 30-year history of fragmented instruction for students receiving compensatory services. Disadvantaged students were increasingly to be moved into the instructional mainstream; as Natriello and McDill write, this is consistent with the idea that Title I, to be truly compensatory, should not systematically deprive many poor students of instructional opportunities they should have in regular classrooms.

But this leaves wide latitude for the states in determining the quality of instructional standards and assessments, and in devising accountability systems to accompany them. As Chun and Goertz observe, since the Department does not approve states' standards, only the process by which they are developed, (p. xxx), there is wide variation among states in how they define "adequate progress" or "proficiency." Absent any consistent federal benchmark (based on NAEP for instance), Title I students in Alabama and California who are termed "proficient" likely have very different skill levels. And testing has become heavily politicized. In many states, there is instability and even acrimony surrounding instructional issues, instead of the kind of carefully balanced elements of instruction that Cohen and Hill say are essential for student learning.

A second set of problems Chun and Goertz document is how Title I has intersected a major 1990s state-level policy trend: school-level accountability. While states holding schools accountable for performance is commendable and necessary, the problem for Title I is that under such systems, schools do not experience pressure to ensure that all of their students' learning improves. For instance, in Maryland, the state has set ambitious learning goals for all students, and timelines for schools to meet them. To be considered "satisfactory," 70 percent of a school's students must score at or above a certain proficiency level on the Maryland State Performance Assessment Program (MSPAP) test. But in such a school, the hypothetical 30 percent who do not meet the standard may be the school's Title I population.

This is not to say that states' accountability measures for schools do not exert a positive influence on paying attention to lowest performing schools. In fact, in Maryland, the reconstitution of consistently low-performing or even non-improving schools is a major component of that state's accountability system. The point is that when a state *only* considers aggregate building-level performance, then there is no mechanism for ensuring that schools pay attention to the learning of the lowest-performing students. Goertz states that in her work in

surveying schools' responses to state policies, teachers may experience the incentive to focus special attention on higher-performing students who can be coached up to the "satisfactory" mark. Their paper describes some exemplary districts where continuous progress for Title I students *is* expected and rewarded.

In Chun and Goertz's survey of state policies, Texas is the state that stands out as an exception for its annual yearly performance requirements (p. xxx). Texas's system is different because it addresses equity within schools: in 1998, a minimum of 40 percent of each sub-group (grade, gender, race/ethnicity, economically disadvantaged) of students must pass the TAAS test for a school to be considered satisfactory, and this minimum will be increasing until 2000. This minimum sub-group percentage is the same for *all* students building-wide who must pass TAAS. "While Title I requires districts to report scores for subgroups of students, only Texas requires a minimum level of performance by these subgroups," they write (p. xxx). This kind of performance reporting ensures that the state is tracking bilingual students' progress, which also is an area in which federal requirements are not specified and should be. Another state that has built checks on the lowest performing students into its accountability system is Kentucky, which requires that 10 percent of students in each school move from the lowest performance category (novice) to the next highest (apprentice), in order for the school to be designated "exemplary." These kinds of incentives need to become the norm, not the exception; and the reauthorization of Title I should tie receipt of funds to states' adoption of sub-group performance accountability systems. Further, there ought to be a consistent national benchmark for Title I proficiency in mathematics and reading, possibly derived from NAEP. Without such a common mark, district, state, and federal policymakers will continue to be in the dark about how Title I students' performance levels, both in the short and in the longer term.

The Department of Education has been constrained from dictating to states the quality or content of their standards, the terms of their accountability systems, and a consistent mark for identifying schools where Title I students do not progress. But as Kenneth Wong and Margaret Wang argue, there are other possibilities for tightening the federal administration of the program, applying standards consistently for enforcement. These administrative guidelines should offer the terms for federal approval of the quality of state Title I plans.

The Department of Education should be watchful about the quality of state plans. For example, no Title I state plan, EdFlex or otherwise, ought to be approved when it is clear that a state is merely collecting multiple sets of district standards of varying quality and submitting them together out of expediency. The Department should verify that uniform, high-quality content and performance standards will be used across the state.[15] The 1994 reauthorization assumed that states, granted flexibility, would use federal funds to support "high standards." But a passive role Education Department in assuring a high minimum of instructional quality has not produced results, and will not do so absent major changes.

CONCLUSIONS

The research we have commissioned identifies several major areas for Congressional consideration in the reauthorization of Title I. A program does not readily "transform" within six years, or even fifteen, from an entitlement program to an engine for "scaling up" successful interventions and pays for the highest quality of curriculum, instructors, and professional development opportunities.

The 1994 reauthorization, while a significant step in the direction of improving student outcomes, made several assumptions that need to be reconsidered. These are:

- Decentralization and block grants to high-poverty schools will produce results;

- High-poverty schools can implement schoolwide projects without a specific role for districts which includes support for formative evaluation and technical assistance;
- States' standards agendas are stable enough that Title I requirements may safely be attached to them without consequences for curriculum and pedagogy;
- States will incorporate sub-group performance, not just reporting, into their accountability systems, without being required to do so;
- The educational community is well enough informed about the kinds of interventions make a difference in specific settings, and that state and district leaders have the capacity to gather and disseminate all that is currently known;
- Continued heavy investment in the early grades should still be our primary investment for compensatory education.

Title I has served the national interest well, but it can contribute far more powerfully than it has to improving outcomes for disadvantaged students. We urge the administration, the Department, and Congress to re-examine these assumptions, and set the stage for the next century.

NOTES

[1] Geoffrey Borman and Jerome D'Agostino, "Title I and Student Achievement: A Meta-Analysis of Federal Evaluation Results," *Educational Evaluation and Policy Analysis*, Winter 1996, Vol. 18, No. 4, p. 309-326.

[2] For a recent treatment of this subject, see Seymour B. Sarason, "Some Features of a Flawed Educational System," *Daedalus*, Fall 1998, p. 1-12.

[3] The organizational consequences for schools of the separate administrative structure created by Chapter One was written about widely in the 1980's. See, for instance, Kaestle and Smith, *The Federal Role in Elementary and Secondary Education*, Harvard Educational Review, Vol. 52, No. 4, November 1982; and Richard Elmore and Milbrey McLaughlin, *Steady Work: Policy, Practice, and the Reform of American Education*, February, 1988.

[4] See, for instance, Smith, Scoll, and Plisko, The Improving America's Schools Act: A New Partnership, National Issues in Education: Elementary and Secondary Education Act, ed. Jack Jennings, Phi Delta Kappa, 1995.

[5] For a discussion of the incentives in the program that have mitigated against assuring quality, see Richard F. Elmore, "The Problem of Quality in Chapter I," *Federal Aid to the Disadvantaged*, ed. Denis Doyle and Bruce Cooper, Philadelphia, PA: Falmer Press, 1988, p. 167-180.

[6] This information is from the web site of the Northwest Regional Educational Laboratory, found at http://www.nwrel.org/csrdp/about.html.

[7] Berman and McLaughlin, "Federal Support for Improved Educational Practice," *The Federal Interest in Financing Schooling*, ed. M. Timpane, Cambridge, MA: Ballinger, 1978, p. 224.

[8] This provision may be found in the *Improving America's Schools Act of 1994*, 103rd Congress, 2nd session, House of Representatives Report 103-761, in Section 116, "Assessment and Local Educational Agencies and School Improvement," (5)(B)(i)(VII).

[9] See James McPartland, "Older Students Also Need Compensatory Services," this volume.

[10] Susan Mayer and Christopher Jencks, "War on Poverty: No Apologies, Please," *New York Times*, November 8, 1995.

[11] See Fred Mosteller, "The Tennessee Study of Class Size in the Early School Grades," *The Future of Children*, Vol. 5, No. 2, p. 113-127, 1995; Word, E., Johnston, J., and Bain, H.P., *Student Teacher Achievement Ratios (STAR): Tennessee's K-3 Class Size Study: Final Summary Report 1985-1990*, Nashville: Tennessee Department of Education, 1990; and Finn and

Achilles, "Answers and Questions About Class Size: A Statewide Experiment," *American Educational Research Journal*, Vol. 27, No. 3, Fall 1990, p. 557-577.

[12] For instance, David Cohen, writing in 1971 in Alice Rivlin's book, *Systematic Thinking*, advocated not just more funds for Title I, "but more funds plus an ambitious plan of systematic experimentation. Different programs had to be carefully compared and the same programs tested under different conditions so that promising approaches could be isolated" (cited in Julie Roy Jeffrey, *Education for Children of the Poor: A Study of the Origins and Implementation of the Elementary and Secondary Education Act of 1965*. Columbus, OH: Ohio State University Press, 1978.)

[13] Excerpt from the Report of the Education Panel of the President's Committee of Advisors on Science and Technology, Washington, D.C., March, 1997.

[14] Sarason, cited above.

[15] Report by the Citizens' Commission on Civil Rights, *Title I in Midstream: The Fight to Improve Schools for Poor Kids*, Washington, D.C., Fall, 1998.

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TITLE I: FROM FUNDING MECHANISM TO EDUCATIONAL PROGRAM

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SUMMARY

We provide an historical overview of Title I, the largest compensatory education program, from its inception to the present with particular attention to the targeting of Title I services to children in poverty and members of minority groups.

We first outline the sociopolitical context in which the program originated as a major component of President Johnson's "War on Poverty." The program was rooted in the civil rights movement and Great Society antipoverty programs and was grounded in emerging assumptions about the possibilities for early intervention to improve the developmental trajectories of children.

We next document the fifteen-year history of numerous problems (1965-1980) concerning programmatic implementation. We also trace the legislative history of Title I over the past three decades by highlighting several of its reauthorizations and amendments and the evaluative and sociopolitical sources of these legislative changes. Such changes have been influenced by still shifting conceptions about the limitations and possibilities of using educational services to ameliorate disadvantaging social circumstances.

We critique the history of changes in the complex distribution procedures for allocating funds to local jurisdictions and schools and how such formulas have been mediated by the political interests of various regions and states. We consider the numerous alternatives that have been proposed for shifting the distribution of funds to those most in need.

As part of our broader consideration of how Title I resources have been directed, we provide a brief overview of changes in the kinds of services Title I is authorized to support. We consider aspects such as parental involvement strategies, grade level coverage, various types of curricula, instruction, and social services provided, and the types of delivery models developed for providing institutional services.

Finally, we present a set of recommendations for enhancing the overall effectiveness of the program as it moves forward.

HISTORY OF TITLE I

Title I, "Better Schooling for Educationally Deprived Students," the largest compensatory education program in American history, originated as one component of the federal Elementary and Secondary Education Act (ESEA) of 1965.[1] Title I was the centerpiece of the ESEA and has remained so to the present. The ESEA was one of the major programs of President Lyndon Johnson's "War on Poverty" which was "a massive government assault on poverty developed within the Kennedy-Johnson administration, among officials whose responsibilities were to think about such matters."[2] Many of these officials were holdovers from the New Deal era, and several were academicians on leave who saw a widening gap "between the prospects of the poor and those of the middle class."[3]

Timar[4] succinctly summarizes the sociopolitical context that provided the major impetus for passage of the ESEA in 1965:

> *...the genesis of the Elementary and Secondary Education Act (ESEA) was firmly rooted in the civil rights movement and Great Society antipoverty programs. The significance of Title I's origins is that education became part of a larger struggle for social, political, and economic equality. Consequently, the federal interest in education was framed by the language of rights and entitlement. Education became the centerpiece of social policy, integral to the national commitment to social justice through equal opportunity.*

President Johnson was a chief executive who was knowledgeable about the dimensions of power "and seemingly everything about politics."[5] Within a matter of weeks after Johnson assumed the Presidency in late November, 1963, the array of legislative bills was merged into a legislative program and sent to Congress under the label the "War on Poverty."

President Johnson's "war" was officially launched in 1964, with passage of the Economic Opportunity Act which included the Job Corps, Community Action, and Head Start. The ESEA followed the next year, involving five titles, with Title I designed to provide compensatory education services to economically and socially disadvantaged students.[6] Prior to the passage of the ESEA, President Johnson reported that he wished to be remembered as the "education President"[7] Further, at the bill-signing ceremony for the ESEA, he emphasized that the bill was the most important he would ever sign.[8]

The stated purpose of the 1965 Title I included the following:

> *In recognition of the special educational needs of children of low-income families and the impact that concentrations of low-income families have on the ability of local educational agencies to support adequate educational programs, the Congress hereby declares it to be the policy of the United States to provide financial assistance to local educational agencies serving areas with concentrations of children from low-income families to expand and improve their educational programs by various means (including preschool programs) which contribute particularly to meeting the special educational needs of educationally deprived children.*[9]

In short, Title I was designed to compensate for or overcome the disadvantages in learning associated with home, school, or community experiences by providing equality of opportunity in funding and programming.[10] Although the original basic premise of Title I was that a major cause of variation in schooling outcomes is different levels of funding among schools, this has been an unsettled issue since the *Equality of Educational Opportunity* survey.[11] Nevertheless, "the agreement that there should not be great disparity in funding among school districts has had persistent legal and social acceptance."[12]

Efforts to provide equality of opportunity in programming have been underway since the War on Poverty was launched. The primary device employed has been compensatory education programs, of which Title I is the most important. As noted by Timar, the underlying premise of Title I regulations implied that schools as organizations were not important:

> *Title I service delivery was predicated on the assumption that local compliance with federal mandates was sufficient to secure educational results for precisely those students whom the schools had the most difficulty educating. Assessment and evaluation focused on compliance with procedural requirements that were often labyrinthine. In order to comply with federal regulations, compensatory students were segregated from others. The resulting separation between students identified as disadvantaged and low-achieving from the rest simply exacerbated the isolation of Title I students and services.*[13]

Concerns among policymakers regarding inadequate programmatic design, implementation, and evaluation led to major reforms in Title I in the Hawkins-Stafford amendments in 1988 and the subsequent revisions of 1994 as part of the Improving America's Schools Act (IASA). Both of these programmatic revisions are discussed below. Here it is sufficient to note that among the most important changes are those involving program coordination, schoolwide programs, accountability for performance, and parental involvement.[14] One of the most important of these changes permits schools with high concentrations of poverty students to use Title I funds schoolwide, rather than only for eligible students. Using funds to aid all students in a school eliminates preoccupation with audits and other technical compliance issues that constrained earlier Title I implementation.[15] As noted by Wong and Meyer,[16] these legislative changes have permitted policy analysts to focus their attention on program design at the school level in ways that are likely to strengthen the schools' organizational competence to develop less fragmented changes to assist at-risk students.

The moral and legal incentives provided by the civil rights establishment for social welfare legislation in general has led Congress over the past thirty years to reauthorize Title I seven times and to mandate the development and institutionalization of a "vast legal and regulatory enterprise to ensure that students, indeed, be served."[17] John Jennings, long-time General Counsel for Education, Committee on Education and Labor, U.S. House of Representatives, attributes Title

I's survival and major growth to its enormous popularity in Congress. Almost from its inception policymakers recognized "that the program has focused on helping children furthest behind in school generally, those in the lowest quartile of achievement, and those are the children who have shown solid educational progress over the years."[18]

Clearly, the most valid measure of the program's popularity with policymakers is its general, steady increase in funding since 1965. The monotonically increasing funding in five-year intervals for the period FY1966-FY1996 is shown in Table 1, which reveals that the funding level in actual dollars has increased 652%.

TABLE 1
TITLE I FUNDING 1965 - 1995[A]

Fiscal Year	Appropriations[b]
1966	$959
1971	$1,500
1976	$2,050
1981	$3,104
1986	$3,530
1991	$6,215
1996	$7,219

[a]Source: U.S. Department of Education, Compensatory Education Programs, Sept., 1997.
[b]All appropriations X $1,000,000

Further, from FY 1966 through FY 1997, Congress has appropriated a total of almost $117 billion for Title I (not shown in tabular form). Adjusted for inflation (i.e., in 1984 dollars) the funding level for Title I has increased from $3.00 billion in FY 1984 to $4.68 billion in FY 1997 (not shown in tabular form), an increase of almost 23%. In sum, since Title I's inception

> *the program has been the cornerstone of federal support to education, and its annual appropriation of about $7 billion[19] dominates the federal elementary and secondary education budget. The breadth of the program's influence in public education should not be underestimated. It reached over six million children annually, primarily in the early elementary grades (one in five 1st graders participated in Chapter 1), three-quarters of all elementary, about half of middle and high schools, and one quarter of high schools.[20]*

From its beginning, Title I had as its target population students at the pre-school, elementary, and secondary levels. However, it has always concentrated on the early elementary years, a point to which we return below. This funding permitted the development of special curricula, focusing on cognitive skills such as reading, language arts, and mathematics. Funds have also been used to include the extended school day or year to counteract the typical "cumulative deficits"[21] accruing over the conventional school year. Funds often have been expended for classroom aides, often parents of the disadvantaged, and for recruiting and training teachers who specialize in educating disadvantaged students.

Congress has frequently expanded its control over Title I in an attempt to meet the program's twin objectives of providing *equal educational opportunity* for all children (i.e., equal provision of resources for students regardless of their socioeconomic background) and reducing the disparities in *educational achievement* associated with social class membership. Although the second objective received some attention from policymakers over the first fifteen years in terms of evaluation of the program's effectiveness in raising student achievement (an issue we cover below), much of the early attention was devoted to effectiveness of programmatic implementation, that is, to fiscal and programmatic compliance with federal mandates.[22] In adhering to the original premise underlying the program that poverty and school performance are related,

> *The legislation allocates funds primarily on the basis of the number of school-age students from low-*

income families who reside in school districts. Districts, in turn, must select schools to participate mainly on the basis of the low-income students residing in their boundaries. After services have been established in schools, the particular students to be served within the chosen schools must be selected on the basis of their educational need, rather than on the basis of their family poverty.[23]

During the first fifteen years of the program several studies of programmatic implementation revealed many weaknesses, often involving improper expenditures of funds by local districts for general aid purposes rather than for the most needy students.[24] Strict oversight procedures implemented by Congress and the states during the 1970s resulted in Title I services in general "reaching their intended beneficiaries."[25] However,

the emphasis on fiscal and programmatic accountability by both the Congress and the Department of Education has led administrators to fear rebukes for such fiscal lapses more than to fear criticisms for not raising educational achievement. The problem originated in the requirements of the law and was not the fault of local teachers and administrators. They were placing the emphasis on what they thought the law mandated.[26]

The election of President Reagan in 1980 had substantial impact on the operation of the program. His perceived mandate to curtail federal involvement in elementary and secondary schooling led to cuts in the actual dollar allocations for 1981-1983 and the passage of the Education Consolidation and Improvement Act (ECIA), which merged Title I into the new law and renamed it Chapter I. Chapter I retained the same basic objectives as Title I; namely "to continue to provide financial assistance to state and local educational agencies to meet the special needs of educationally deprived children, on the basis of entitlement calculated under Title I of the Elementary and Secondary Act of 1965..."[27]

The new law simplified Title I by reducing federal reporting requirements. However,

The metamorphosis of Title I into Chapter I, during the early years of the Reagan administration made little substantive difference in services. Policy debates over the Educational Consolidation and Improvement Act (ECIA) generally evaded issues of program quality, focusing instead on issues of governance and responsibility. In the spirit of program devolution, federal policy simply shifted responsibility for overseeing programs to state and local levels. Funding was cut, but many of the compliance and accountability provisions remained. The change from Title I to Chapter I had negligible, if any, impact on schools. Assessment and oversight of Chapter I continued past strategies for regulating and monitoring compliance.[28]

Significant organizational and operational changes in Title I occurred in 1988, with passage of the Hawkins-Stafford Amendments. These revisions granted schools greater flexibility in programmatic development in return for increased responsibilities for improved student performance.[29] The primary impetus for the legislation was the widely-shared view in Congress and in the executive branch that Title I, in its twenty-plus years of existence, had led merely to modest achievement gains for disadvantaged students, but had not succeeded in closing the gap with their more advantaged peers.[30] Such a view was well substantiated by several studies, arguably the most important being the 1986 investigation.[31] Mandated by Congress, this investigation revealed that the program had produced small, short-term achievement effects that failed to narrow the gap between poor and more advantaged students. As noted by Jennings,[32]

A major shift in emphasis in Chapter I is occurring; it emphasizes that educational improvements are intended results, not just fiscal and programmatic compliance. Such a shift towards educational accountability has not only begun to change the program at the local level, but it has also attracted substantial additional dollars in appropriations to the program.

Four provisions of the Hawkins-Stafford Amendments to Title I highlight the major emphasis on improved academic effectiveness of the program.[33]

28. *Improved Coordination* between Title I and the regular school curriculum by developing more integrated, school-wide approaches for meeting the needs of all students.
29. *Parental Involvement* – The legislation specified procedures for more systematically involving parents in the planning, review, and implementation of the program through the use of written district policies.

30. *School-wide Projects* – Congress eased restrictions on the development of whole-school reforms where the poverty level was 75% or greater. Such efforts often emphasize programmatic coordination and school-wide goals. As noted by Timar,[34] applying funds for the benefit of all students in a school lessens a concern with "audit trails and other technical compliance issues that characterized prior Chapter I and Title I implementation."
31. *Accountability for school performance* – Congress increased its demands for program effectiveness by requiring school districts to identify schools that failed to demonstrate academic progress and then aid these institutions in developing and implementing improvement plans.

As part of the Hawkins-Stafford legislation, Congress mandated a comprehensive, intensive, longitudinal study of the effects of Title I on student achievement and other school-linked outputs. Entitled the *Prospects* study, this major undertaking produced two reports[35] [36] which overlapped with an internal study of the program conducted by the U.S. Department of Education[37] and other external studies. This corpus of material provided consensual validation that Title I was still failing to meet the expectations of policymakers.

The interim report of the *Prospects* study[38] appeared shortly before the required reauthorization of the ESEA in 1994. The ESEA was reauthorized by Congress as part of the Improving America's Schools Act (IASA) which was signed into law in October, 1994. This comprehensive legislation synthesized "prominent strands of U.S. educational reform that originated both inside and outside of the school system."[39]

The IASA embraced three sweeping bills: the ESEA reauthorization, the Goals 2000: Educate America Act, and the School-to-Work Opportunities Act. The IASA provided a major overhaul of programs governing an $11+ billion-a-year federal investment in education "designed to help ensure that *all* children acquire the knowledge and skills that they will need in the 21st century."[40]

The Goals 2000 legislation was an outgrowth of the agreement reached by President George Bush and the nation's governors in Charlottesville, Virginia, in 1989. That summit produced six national educational goals which the President and governors collectively committed themselves to reach by the year 2000. These goals established high expectations for educational performance at every stage of a learner's life.[41] In 1994 Congress expanded to eight the number of goals and incorporated them into the Goals 2000 legislation.

The School-to-Work Opportunities Act, jointly administered by the U.S. Departments of Education and Labor, has as its objective the development of a high quality, school-to-work educational system that prepares youth either for well-paying jobs requiring technical skills or for additional education and/or training.[42]

The 1994 reauthorization of the ESEA returned Chapter I to its original name, "Title I." The new amendments to Title I fundamentally overhauled this component of the ESEA. The Director of Compensatory Education, U.S. Department of Education[43] has succinctly summarized the most important changes as follows:

- a focus on teaching and learning instead of rules and requirements;
- high expectations and standards instead of low expectations and remediation;
- state assessment for all children instead of a separate testing system for Title I;
- schoolwide reform instead of isolated programs;
- accelerated curricula instead of drill and practice;
- extended learning time instead of pullout programs;
- continual staff development focused on attainment of high standards instead of on one-time, unrelated topics;
- district/school consultation on funding and program decisions rather than district-level, one-size-fits-all programming;

- parents and schools sharing responsibility for high student performance instead of working independently;
- targeting of resources in amounts that make a difference instead of spreading dollars as far as they will go;
- greater flexibility in exchange for greater accountability for student performance; and
- changing roles from command and control to suggest and support.

These modifications have been usefully subsumed under a "trilogy" of policy changes in the following domains: more demanding content standards for all students; new forms of assessment aligned with the content standards and curriculum; and more academic accountability by requiring districts and schools to make consistent, adequate progress in moving students to proficient and advanced levels of achievement.[44]

The Citizens' Commission on Civil Rights (CCCR), a bipartisan organization that monitors civil rights policies and practices of the federal government, examined the transition to outcomes-based accountability in Title I and found problems of implementation in each of the three domains. In the area of standards, the Commission found that despite the commitment of the new law to high standards for all children, 31 states lacked an approved process for developing performance standards as of July, 1998. In the area of assessments, the Commission identified deficiencies in the Department of Education's implementation of the provisions of the legislation, noting that the Department approved many state plans that did not meet the terms of the law. Finally, in the area of accountability, the Commission found that the Department of Education has approved many state accountability plans that do not meet the requirements of the law. Approved state policies deviating from the legislative intent include those that failed to include a strategy for holding schools accountable, those that allowed school districts to determine their own levels of acceptable progress, those that failed to hold schools accountable for the progress of LEP and poor children and those that failed to set a single level of adequate progress for all children.[45]

DISTRIBUTION MECHANISM

The complex set of procedures for allocating Title I funds attempts to ameliorate the effects of poverty while balancing the interests of the various states. Funds are allocated to counties, school districts, and schools primarily on the basis of the number of school-age children in poverty.[46] The current law (IASA or P.L. 103-382) contains four different formulas for distributing funds, though only two are presently funded. The basic grant formula had been used to allocate the large majority of Title I funds since 1965 with only a few changes; in 1996 this formula was used to distribute 90% of Title I funds.[47] Funds are allocated on a cost-adjusted basis in proportion to each county's share of the nation's poor children. Local districts are eligible for basic grants if they have at least 10 children in poverty and, since 1994, if they have a poverty rate over 2%. Ninety-three percent of all local districts received basic grants prior to 1994, and this number is down slightly since the introduction of the new 2% eligibility requirement.[48]

A concentration grant formula was first funded for three years beginning in 1978 and then funded again in 1988, and since that time, rising over the years to 10% of total Title I funds. The concentration grant formula is similar to the basic grant formula but allocates funds to counties and school districts with at least 6,500 or more than 15% poor children.[49]

In 1994 two other distribution formulas were added. A targeted grant program uses a weighted-child formula, based on both the percentage and number of poor children in a county or district. Eligibility thresholds require at least 10 children in poverty and a poverty rate over 5%. The grant applies the weights so that only children above each weighting level receive higher weight. An education finance incentive program was also added in 1994. This program would distribute funds based on the number of all school-age children in a state multiplied by factors that provide

higher levels of funding to states with higher fiscal effort and within-state equalization. States would then distribute funds to local districts in proportion to all other Title I funds received by districts.

The targeted grant program and the education finance incentive grant program were added to the 1994 law as a way of compromising House and Senate approaches to the targeting of funds. Neither program has been funded to this point.[50]

Once funds are at the local district, districts select schools to receive the funds by ranking schools according to the percentage of children from low-income families. Schools with a poverty rate above the district average are eligible for Title I funds, but all schools with a poverty rate of 35% or more may receive funds and all schools with poverty rates of 75% or more must receive funds.[51]

Funds are distributed to each eligible school based on the number of low-income students. Each school must receive a per-poor child allocation from Title I of at least 125% of the district-wide, per-poor child allocation to avoid spreading funds thinly across many eligible schools. However, this rule regarding the 125% allocation does not apply if all participating schools have at least 35% poor children.[52]

If 50% or more of the students in an individual school are poor and if the school has a plan to demonstrate how funds will be used to improve the overall quality of the school program while focusing on the needs of the disadvantaged, the school may be eligible for "schoolwide programs." The number of such schoolwide programs has increased from about 200 in 1988-89 to 3,900 in 1993-94, representing 37% of the schools eligible for the schoolwide approach.[53]

Schools with fewer than half of their students in poverty and those that do not choose to implement a schoolwide approach provide more targeted help on the basis of educational needs rather than on the basis of family poverty. Districts use their own definition of educational disadvantage to target students for Title I assistance.[54] In this way Title I funds are allocated according to both economic and educational needs.

The failure of 63% of the schools with half or more of their students in poverty to take advantage of the school wide programs option is problematic in view of the growing consensus that such whole school reform efforts are both more likely to be effective in improving the overall quality of education offered by a school and more likely to lead all students, including poor students, to achieve desired outcomes. Years and years of treating Title I programs as ad-ons may have created substantial inertia in program design efforts that make the move to school-wide programs more difficult. Moreover, mechanical adherence to long-standing Title I requirements leads districts away from the school-wide option.

All local districts receiving Title I funds must comply with three requirements. First, districts may use Title I funds only to supplement, not supplant funds that would otherwise be available from state and local sources. In practice, districts have relied on the "pull-out" program strategy to demonstrate compliance with this requirement, though as Orland and Stullich observe the pull-out approach may be viewed as supplanting normal services since children removed from class are missing regular learning experiences.[55]

Second, districts must use state and local funds to provide services in Title I schools that are comparable to those in non-Title I schools. Districts demonstrate compliance with this regulation by having comparable expenditures per student, teacher training and experience as well as the availability of materials and equipment,[56] though more fine-grained examinations have revealed differences.[57] Perhaps more problematic to efforts to ensure comparability is the fact that the comparability requirement applies only within districts, not between districts within states with inequitable funding patterns, or between states that differ markedly in the levels of resources devoted to education.[58]

Third, districts may not use Title I funds to reduce state and local revenues. Districts typically meet this requirement if state and local expenditures are at least 90% of the prior year expenditures.[59]

The 1994 law governing Title I contained two additional changes in the distribution mechanism for Title I funds. Beginning with the 1997 allocations, Title I distributions must be based on census poverty data that are updated every two years instead of the decennial census data. Beginning with the 1999 allocations, funds are to be allocated directly to school districts instead of to counties.[60]

The move to biennial census updates was prompted by the severe changes in Title I allocations between the 1980 and 1990 censuses. Title I allocations shifted substantially beginning with the 1993-94 grants which were the first based on 1990 census data. State shares of the poor, school-aged population increased in the southwest, northwest, Rocky Mountain states, and some states in the upper midwest while they decreased in the New England, Mid-Atlantic, and Southeastern states.[61] States and districts with substantial declines in their share of poor children had to manage substantial reductions in Title I funds while those with increasing shares received overdue increases.

The shift to making allocations directly to school districts instead of to counties beginning in 1999 is designed to overcome some inequities. Under the current system of distributing funds first to counties, high-poverty school districts in low-poverty counties may fail to receive concentration grants if the counties fail to meet the eligibility thresholds. Other districts in counties that meet the requirements may receive very large concentration grants if they are the only eligible district in the county.[62]

Federal efforts to facilitate comprehensive school reform such as revisions in the Title I reauthorization of 1988 provided by the Hawkins-Stafford amendments, the passage of the IASA in 1994, and passage of the Comprehensive School Reform Demonstration (CSRD) legislation of 1997 (discussed below) are intended "to improve student and school performance through schools adopting a unified, coherent approach rather than adding fragmented programs or investing in personnel dedicated to a small group of students in pull-out programs."[63] Such a strategy seems counter to the "systemic reform"[64] policy which proposes making fundamental changes in the institution of public education from the most distal level of national goals, to state curricula, to the level of the classroom. Advocates of whole-school reform[65] argue persuasively, using empirical evidence, that systemic reforms involving a top-down approach merely provide a framework for change, but they are too far removed from classroom practice to improve the teaching-learning process. Some of these proponents[66] further contend that the systemic approach, involving external pressure on schools from the SEA and/or LEA, is likely to lead to mandated academic programs of a fragmented nature, thus reducing school-level autonomy to make informed decisions about the selection of school reform models. They further contend that this tension can be resolved only by federal authorities discouraging such an LEA policy, and replacing it with "one that is more conducive to the building of capacity and capability at the school level to design and implement school specific and school-wide solutions to the problems the school faces."[67] Other proponents of whole school reform argue that the federal role in Title I oversight should primarily be to promote and fund "proven models"[68] of whole-school reform and to facilitate the free flow of information in the educational R and D system, and the policy community, which will help promote equal educational opportunities through the nation.[69] In turn, Title I offices in states and districts should develop the capacity to help schools make informed choices among effective reform models by maintaining "libraries of video tapes, print materials, curriculum samples and evaluation reports.[70] They should also develop the capacity to

assist in the coordination of activities of professional development services to insure that these providers are fulfilling their commitments.

Accountability for school improvement has been one of the primary issues involved in recent revisions in Title I, dating back to 1988 with the Hawkins-Stafford amendments. It is a major focus of the IASA of 1994 which contains stronger requirements for school and district performance. The accountability systems must be based on state standards and assessments aligned with the standards. Title I now requires districts to identify schools in need of improvement, and states to identify districts that are deficient. In turn, districts are expected to provide capacity-building aid to schools in need of improvement,[71] and states to do the same for districts that fail to meet the standards.

If schools fail to make adequate improvements, corrective actions such as withholding funds, revoking a school's authority to operate a program, and reconstituting a school staff may be taken. A number of studies of the implementation of standards and accountability devices have indicated that several changes specified in the legislation have not been implemented and those that have been instituted have shown only minor impact on teacher performance.[72] Further, the Citizens' Commission on Civil Rights,[73] has charged that the U.S. Department of Education's "enforcement to date of Title I's accountability requirements has glossed over the widespread propensity of school officials to maintain and tolerate a permanent underclass of low-achieving students who are disproportionately poor and minority."

The CSRD Program, recently passed by Congress, is a funding mechanism to support schools that adopt research-based, school-wide, reform models. More specifically, its purpose is "to provide financial incentives for schools that need to substantially improve student achievement, particularly Title I schools, to implement comprehensive school reform programs that are based on reliable research and effective practices, and include an emphasis on basic academics and parental involvement."[74] Better known as the Porter-Obey bill after the two Midwestern congressmen who introduced it, the legislation provides a minimum of $50,000 per year for three years to each school that is approved by its state department of education for funding. With an initial appropriation of $125 million for Title I eligible schools and $25 million for other institutions, the funds are distributed on a formula basis to each state depending on the number of students in grades K-12. There are nine criteria for determining whether models are comprehensive, research-based, and effective, with 17 designs specifically mentioned in the legislation. The first awards are to be made in the 1998-99 school year, with most to follow in subsequent years.

Still other targeting strategies might be considered for the distribution of Title I funds. Block grants might be made to states as was done with Chapter 2 funds. Examining the Chapter 2 experience, Wong and Peterson suggest that block grants in that case led to more local control, less administrative involvement and more political involvement, less attention to redistribution, and more attention to development overall.[75] Parks-Trusz considers the Chapter 2 education block grant as implemented in Tennessee and notes that funds were spread more evenly, with a loss of funds for urban districts and a loss for states with many poor children.[76] Reviewing the impact of block grants nationally, Verstegen concludes that there were adverse effects on states in certain regions (Mid-Atlantic, Great Lakes), on states with large numbers of children in poverty, and on minority children.[77]

Clearly, the attempt to target Title I funds to students who are most disadvantaged is fraught with political difficulties. Like much federal aid, Title I funds are not directed to compensate for fiscal imbalances among states with different levels of need and unequal fiscal resources.[78] We noted earlier how the emerging strategy of bypassing counties and directing Title I funds directly to school districts within states is designed to move funds to the most disadvantaged students.

Carrying this strategy of moving to smaller units for the receipt of Title I funds suggests that awards to individual schools and even to individual students or their families could allow funds to be dispersed to those students with the greatest levels of need.

Of course, although moving funds to schools and families would both link the funds more directly to students in need, they would lead to quite different opportunities and constraints for the delivery of educational services. Targeting funds to the school level would allow efforts such as those suggested by Schellenberg[79] including the provision of additional resources to schools and districts with geographic concentrations of poor children, the implementation of programs and practices deemed most effective for the education of poor children, and the development of innovative programs to respond to the social disadvantages of poor communities. Nevertheless, these efforts would still confront the substantial local political pressures likely to derail them as noted by Hill and Cohen.[80]

It is in the face of such dilemmas that some look to the potential of strategies which target funds to individual students and families. Although such approaches would not be likely to lead to the development of more intense concentrations of efforts on schools with high concentrations of poor children, they might operate in other ways to ameliorate the plight of disadvantaged children. Not only would targeting resources directly to students and families locate them with decision makers who have the most to gain from improving the educational opportunities of the children, they would, at least in theory, also enable some families to relocate children to schools with lower concentrations of poverty where, as Schellenberg notes, they tend to learn more.[81] This last effect is dependent upon the openness of other educational institutions to children in poverty once they are armed with government stipends. Moreover, an unintended consequence of enabling poor families to relocate their children to schools with lesser concentrations of poor children might be to leave the children of the least aware, poor parents in their original high poverty settings, now with concentrations of even less able poor families.

Differences in Participation in Title I by Ethnic/Racial Background

With the long-standing relationships between racial/ethnic minority status and poverty in the United States it is not surprising that throughout the existence of Title I, research has shown a substantial relationship between Title I participation and students' ethnic and racial backgrounds. For example, the percentages of black and Hispanic students served by Title I in 1987 (29 and 22 percent, respectively) were considerably higher than their respective percentages in the school-age population (15 and 8 percent). The percentage of white students participating in the program (45 percent) was lower than their percentage of the school-age population (72 percent).[82] More recent evidence from the *Prospects* study[83] reinforces the 1987 results: across three grade cohorts "between 40 and 50% of Chapter I participants are white, not of Hispanic origin. In contrast, about three-quarters of the non-participants are white, a difference of 50 to 80 percent higher than that observed for the Chapter I students."

RANGE OF SERVICES PROVIDED UNDER TITLE I

Parental Involvement

Title I legislation has historically required parental involvement, including activities such as annual meetings and the participation of parents in planning, reviewing, and implementing projects. However, the 1994 legislation expanded such requirements by, among other things, moving responsibility for parent involvement from the school district level to the individual school level, and specifying that the entire school staff participate, not just the Title I staff. Each participating school is now required to involve parents in the development of a school-parent

compact that describes how parents, staff, and students share responsibility for improved student performance. Another notable addition in the new legislation is the requirement that schools build capacity for parental involvement through such strategies as coordinating literacy training for parents who need it to be able to work with their children and showing parents how to monitor their children's progress.[84]

Grade Levels

Title I funds reach over six million students each year and flow to over three-quarters of all elementary schools and nearly half of all middle and secondary schools. Title I funds have been expended at the preschool, elementary, and secondary levels, but districts have chosen to concentrate funds on early interventions. About 21-23 percent of students in the first through third grades, 18 to 21 percent of students in the fourth through sixth grades, and 5 to 8 percent of students in the seventh through ninth grades participate in Title I.[85] About half of all Title I students are in grades pre-K to 3 and only 20% in grades 7 to 12.[86]

Emphasis on Basic Academic Skills

Because Title I is primarily a funding source with only broad guidelines directing the use of those funds, school districts and schools can exercise great discretion in how funds are spent. In the *Prospects* study, school districts reported that between 70 and 80 percent of the funds were used for salaries for instructional, administrative, and support staff.[87]

Historically, school districts have used funds to provide classroom aides and to recruit and train teachers who specialize in teaching disadvantaged students. Most students participating in Title I receive instruction in reading/language arts; fewer students receive math instruction; and very few (about 3 percent) receive services in non-instructional areas such as counseling or health education.[88] For example, Puma, et al. reported that "...of students participating in Chapter 1, 96 percent of 1st-graders, 83 percent of 4th-graders, and 81 percent of 8th-graders received assistance in reading. In contrast, about 30 percent of 1st-graders received services in both reading and math; the corresponding figures for the 4th and 8th grades are 37 and 22 percent, respectively."[89]

As Borman[90] notes, the separate design of categorical programs such as Title I has led to efforts to address students' learning needs through specialized curricular and instructional approaches, with program administrators and teachers generally working in isolation from other staff. Although Title I legislation since 1988 has recommended coordination between Title I and the regular school program and although the 1994 legislation encouraged schools to develop more integrated whole school approaches, targeting and implementation requirements of the sort discussed earlier have continued to lead local educators to maintain the structural separation of these efforts.[91]

Examining national data for first grade students from the Congressionally-mandated *Prospects* evaluation of Title I, Borman[92] found that most Title I reading/language arts students receive supplemental curriculum and instruction different from that presented within the regular classroom in a setting outside the regular classroom. He concluded that participation in Title I reading/language arts programs causes these students to miss valuable learning experiences within their regular classrooms and contribute little net supplemental instructional time. Examining the experiences of students in Title I math programs, Borman found a quite different pattern. Most Title I math programs are offered within the regular classroom with more coordination between Title I and regular classroom teachers and with similar curriculum and instruction.

Delivery models

Much of the debate regarding Chapter I's effectiveness revolves around the most appropriate design or structure for delivering its services to students. There are five different types of delivery modes, which are defined as follows:[93]

- *Pull-out programs*, which remove eligible students from regular classes for special or remedial education.
- *Add-on programs*, which provide instruction at times other than the regular school day or school year (e.g., summer school or before or after school).
- *In-class programs*, which deliver services to students in their regular classrooms.
- *Replacement programs*, which provide to eligible students all of the instruction they receive in a given subject. Typically, such instruction occurs in a separate classroom and includes only other compensatory education students.
- *Schoolwide programs*, which provide services to all students in a school.

In the early eighties Carter[94] noted that the pull-out model was the most common arrangement for providing Title I services. There is perhaps no more controversial aspect of Title I than this "restricted" or isolated educational setting.[95]

Pull-out programs have been criticized on a variety of grounds:

1. There is often a lack of coordination between instruction in the regular and pull-out classes, with teachers rarely and poorly communicating. The result is that poorly achieving students are burdened with having to reconcile different types of instruction.
2. Pull-out programs often "supplant" rather than "supplement" instructional time in basic skills, since the more compensatory programs in which a student is involved, the less instructional time she or he receives.
3. These programs lead to a diminution of the responsibility felt by regular classroom teachers for the academic welfare of disadvantaged students.
4. These programs stigmatize or "label" compensatory education students as inferior in the eyes of both teachers and student peers.

The number of schools using the pull-out approach declined from 84% in 1985-86 to 74% in 1991-92. Other strategies were employed by smaller proportions of participating schools, with 58% using in-class aides, 51% using computer-assisted instruction, 15% using summer school, and 9% using before- and after-school programs.[96] The *Prospects* data show that the pull-out approach remains the dominant delivery mode with, for example, about three-quarters of all 3rd grade Title I students being pulled out of their regular classrooms.[97]

RECOMMENDATIONS

Title I is one of the most enduring federal education efforts. Thus it is important to consider how this effort should be shaped in the future if we are to have the most positive impact on the educational prospects of disadvantaged students. Our review of the history of Title I suggests three general areas worthy of attention and modification.

Targeting Funds

Title I is ostensibly intended to target the most disadvantaged students in U.S. schools. However, the current grant mechanisms spread Title I funds rather widely throughout the vast majority of school districts in the United States. In many instances, Title I funds flow to less disadvantaged students while those more truly disadvantaged receive no benefits.

Recent legislation regarding Title I has attempted to target funds to schools with greater concentrations of disadvantaged students. However, such efforts have either governed only a limited proportion of funds or have not been funded at all. Clearly, there were difficult political issues involved in more focused targeting of Title I toward the most disadvantaged; the current broad base of political support for Title I is no doubt in part a result of the broad distribution of funds.

Nevertheless, targeting Title I funds more closely to the most disadvantaged students as well as to the most concentrated populations of disadvantaged students is probably key to enhancing the effectiveness of the overall program. More intensive, longer duration, interventions appear to be more effective with at-risk students. By focusing Title I efforts, we may see greater returns to the current federal investment.

In addition, although current legislation does not require districts to favor elementary students over secondary students in the distribution of Title I funds, the current pattern of programming is certainly disproportionately concentrated on elementary school students. In light of our current understanding of the fade-out effect of programs such as those supported by Title I funds, it may be more effective to distribute Title I funds so as to provide programming for certain students from kindergarten through high school completion, a point discussed in detail by McPartland.[98]

Shaping Programs

Title I remains primarily a funding mechanism. However, in contrast to 1965 when Title I was first initiated, we now know much more about how to structure and operate programs to benefit disadvantaged students in U.S. schools. Future modifications of Title I might more explicitly recognize the current state of knowledge and go further than even the most recent legislation to encourage such programs. This is another strategy for targeting Title I efforts.

For example, we know from numerous studies that programs with clear goals for academic achievement, methods and materials linked to those goals, and on-going assessment of student performance are likely to deliver better results than programs without such features.[99] We know that programs that are well coordinated and integrated with the regular instructional program of the school are likely to be more effective than programs that are isolated.[100] We also know that adding extra time for instruction through such mechanisms as before- and after-school hours, or summer programs can make important contributions to student achievement.[101] Finally, we know that intensive, high quality, on-going professional development is important to the success of any compensatory education program.[102]

The most recent legislation (IASA) provides for the flexibility to allow and encourage each of these program elements.[103] However, it may be necessary to move more forcefully to reshape programs funded under Title I to take advantage of our current understanding of best practices. This might entail including specific provisions for certain practices. It might also entail the modification or removal of certain current requirements such as that stipulating that Title I funds be used only to supplement state and local program resources. This particular requirement appears to have a chilling effect on efforts to reshape Title I programs.

Evaluation

Over the past thirty years there have been many evaluations of Title I, both national and local, as noted above. These evaluations have varied in quality and scope, but over time they have employed increasingly sophisticated designs that have yielded progressively more useful information about the nature of the educational programs supported by Title I funding and the effects of those programs. Although it is easy to object to at least some features of each of the evaluations conducted of Title I, taken together these assessments have contributed substantially to our understanding of effective programming for at-risk students. For example, a recently conducted large-scale evaluation across states using NAEP data[104] reveals that financial resources spent on interventions such as reducing class size in the early grades can increase student performance. Using natural variation and change in such state policies provides well-defined opportunities for assessing the efficacy of various approaches to school improvement.

Such change should be used by evaluators to determine how teacher and student behaviors at the classroom level are affected by distance policy interventions.

The investments that have been made in evaluations of Title I appear to have been worthwhile, but such investments could be even more fruitful if certain adjustments were made in past practices. Four adjustments seem particularly likely to increase the value of evaluations. First, while previous evaluations have been sporadic, and responsive to immediate Congressional concerns, future evaluations should be planned to occur at regular intervals as part of a full program of evaluation research aimed at developing a progressively more sophisticated understanding of the effects of Title I programs. Second, while previous evaluations have focused primarily on the short-term effects of Title I programs, future evaluations should combine studies of short-term and longer-term effects. Third, while previous evaluations have relied on outcome measures selected specifically for Title I programs, future evaluations should employ both specially selected and more commonly used state and national measures of student outcomes. Fourth, evaluations should require districts and schools to keep and report student outcome data for sub-groups of students, as is currently the case in Texas as reported by Chun and Goertz.[105]

We know more than we ever have about the effects of Title I, but we have a long way to go in understanding which programs work best under which conditions for which at-risk students. An on-going program of evaluation research will help build our base of general knowledge and allow us to monitor and improve current programs.

NOTES

[1]Timar, T. Program design and assessment strategies in Chapter I. In *Rethinking Policy for At-Risk Students*. K.C. Wong and M.C. Wang, eds. Berkeley, CA: McCutchan Publishing Co., 1994, p. 67.

[2]Moynihan, D.P. *Miles to Go: A Personal History of Social Policy*. Cambridge, MA: Harvard University Press, 1996, p. 72.

[3]See note no. 2, Moynihan, p. 73.

[4]See note no. 1, Timar, p. 67.

[5]See note no. 2, Moynihan, p. 73.

[6]Smith, M.S. and Jenkins, J.W. Legislation. In *Encyclopedia of Educational Research*, Fifth Edition. H.F. Mitzel, ed. New York: The Free Press, 1982, p. 1070.

[7]Stringfield, S. Introduction to the special issue on Chapter I policy and evaluation. *Educational Evaluation and Policy Analysis*. (Winter 1991), 13, p. 325.

[8]Jennings, J.F. Chapter I: A view from Congress. *Educational Evaluation and Policy Analysis* (Winter 1991), 13, p. 335.

[9]Elementary and Secondary Education Act of 1965, Section 101. Cited in Smith and Jenkins. See note no. 6, p. 1071.

[10]Natriello, G., McDill, E.L, and Pallas, A.M. *Schooling Disadvantaged Children: Racing Against Catastrophe*. New York: Teachers College Press, 1990, Chapt. 1. During the Reagan Administration "Title I" was superseded in 1981 by "Chapter I" as part of the Educational Consolidation and Improvement Act (ECIA). It was renamed "Title I" in 1994 with the signing into law by President Clinton of the Improving America's Schools Act (IASA). For reasons of simplicity and editorial consistency we refer to the program as Title I throughout the article.

[11]Coleman, J.S., Campbell, E.Q., Hobson, C.J., McPartland, J., Mood, A., Weinfield, F.D., and York, R.L. *Equality of Educational Opportunity*. Washington, DC: U.S. Government Printing Office, 1966.

[12]See note no. 6, Smith and Jenkins, p. 1070.

[13]See note no. 1, Timar, p. 67-68.
[14]See note no. 1, Timar, p. 68.
[15]See note no. 1, Timar, p. 69.
[16]Wong, K.K., and Meyer, S. J. Title I schoolwide programs: A synthesis of findings from recent evaluation. *Education Evaluation and Policy Analysis*. (1998), 20, p. 115.
[17]See note no 1, Timar, p. 67.
[18]See note no 8, Jennings, p. 335-336.
[19]For FY 1997 the program's budget increased to $7.790 billion. Source: U.S. Department of Education Compensatory Education Programs, September, 1997.
[20]Puma, J.J., Karweit, N., Price, C., et al. *Prospects: Final Report on Student Outcomes*. Cambridge, MA: Abt Associates, Inc., April 1997, p. 1.
[21]McDill, E.L., McDill, M.S., and Sprehe, J.T. Evaluation in practice: Compensatory education. In *Evaluating Social Programs: Theory, Practice, and Politics*. P.H. Rossi and W. Williams, eds. New York: Seminar Press, 1972, p. 150.
[22]See note no. 8, Jennings, p. 336.
[23]Kennedy, M.M., Jung, R.E. and Orland, M.E. *Poverty, Achievement, and the Distribution of Compensatory Education Services*. Washington, D.C.: U.S. Government Printing Office, January, 1986, p. 2.
[24]See note no. 6, Smith and Jenkins, p. 1072.
[25]Herrington, C., and Orland, M.E. Politics and federal aid to urban school systems: The case of Chapter I. In *The Politics of Urban Education in the United States*. J. Cibulka, R. Read, and K. Wong, eds. Philadelphia: Falmer Press, 1992, p. 169.
[26]See note no. 8, Jennings, p. 336.
[27]Section 552, Education Consolidation and Improvement Act of 1981. Cited in Kennedy, et al., note no. 23, p. 2.
[28]See note no. 1, Timar, p. 68.
[29]Borman, G.D., and D'Agostino, J.V. Title I and student achievement: A meta-analysis of federal evaluation results. *Educational Evaluation and Policy Analysis* (1996), 18, 4, p. 324.
[30]Kober, N. *The Role and Impact of Chapter I, ESEA, Evaluation and Assessment Practices*. Washington, D.C.: U.S. Government Printing Office, 1992, Chapter 1.
[31]Kennedy, M.M., Birman, B.F., and Demaline, R.E. *The Effectiveness of Chapter I Services: Second Interim Report from the National Assessment of Chapter I*. Washington, D.C.: U.S. Government Printing Office, 1986.
[32]See note no. 8, Jennings, p. 336.
[33]See note no. 25, Herrington and Orland, p. 171.
[34]See note no. 1, Timar, p. 69.
[35]Puma, J.J., Jones, C.C., Rock, D., and Fernandez, R. *The Congressionally-Mandated Study of Educational Growth and Opportunity, Interim Report*. Bethesda, MD: Abt Associates, 1993.
[36]See note no. 20, Puma et al.
[37]U.S. Department of Education, Reinventing Chapter I: The Current Chapter I Programs and New Directions. Final Report of the National Assessment of the Chapter I Program. Washington, D.C.: U.S. Government Printing Office, 1993.
[38]See note no. 35, Puma, et al.
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MAKING TITLE I MORE EFFECTIVE: LESSONS FROM RECENT RESEARCH

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SUMMARY

New research is providing more support for the basic thesis of the Title I program- that money directed toward disadvantaged students can have an impact if directed toward effective programs. On the other hand, there is little evidence that at current spending levels, more investment would be effective at boosting the achievement of highly advantaged students. So targeting of resources to more disadvantaged students is supported by current experimental evidence. The experimental evidence also suggests that lowering class size in lower grades is more effective than teacher aides. However, the direction of future research should be aimed at discovering how teacher and student behavior changes as levels of resources or class sizes are changed. Understanding at this level will allow the design of very cost-effective programs tailored to specific types of children, and to improved uses of Title I funds.

Finally, recent evidence also suggests that state accountability systems may play an important role in student achievement gains. Much research is needed in this area before evidence becomes compelling. But it suggests that assessment and accountability systems may enhance any effects that Title I may produce.

INTRODUCTION

Policymakers and educators have had little help from research in determining how to use Title I funding most effectively. The long term lack of consensus in the research community about which programs and policies are effective has meant that an essential ingredient has been missing in improving utilization of Title I programs. Successful research and development is the engine that drives productivity improvement in every sector of our economy. Without it, progress is likely to be slower, uncertain and more inefficient. So it would not be

surprising that some money was spent inefficiently given that no definitive results emerged from educational research that could guide policymakers.

Fortunately, recent research is leading to a new, tentative consensus about the relationship between educational outcomes and educational resources. The mixed and diverse sets of results from previous research had always been interpreted as providing evidence that "money doesn't matter" in education. This interpretation undercuts the premise on which Title I is built. However, a new consensus is building around a theme which states that at current levels of funding, "money invested in certain programs matters a lot for minority and disadvantaged students, but less so or not at all for more advantaged students." This statement is the central premise of Title I.

We review the research literature and the key findings that undermined the older paradigm and provide support for the new paradigm. We then discuss some preliminary results from ongoing analysis of state NAEP scores and place them in context of other research.

REVIEW OF RECENT RESEARCH

From a broad perspective, there has been little scholarly consensus about the effects on children from changing families, communities and schools, and whether additional public investment in schools and social programs would improve children's well-being. For instance, scholars disagree about the impact of the "war on poverty" and of expanded social welfare programs (Herrnstein and Murray, 1994; Jencks, 1992) and whether increased school resources have raised achievement (Burtless, 1996; Ladd, 1996a). There is disagreement about the way communities have changed for black families (Wilson, 1987; Jencks, 1992) and whether the net effect on children of recent changes in the family have been positive or negative (Cherlin, 1988; Zill and Rogers, 1988; Fuchs and Rekliss, 1992; Popenoe, 1993; Stacey, 1993; Haverman and Wolfe, 1994, Grissmer, et al., 1994). There is more agreement about the effects of desegregation – although some dispute remains (Wells and Crain, 1994; Schofield, J., 1994; Armor, 1995; Orfield and Eaton, 1996).

Finally, while many small scale early childhood programs appear to produce significant short and long term effects, there is disagreement about large scale programs – how large the effects from attending kindergarten and pre-school are and how long these effects last (Future of Children, 1995) (Karweit, 1989). Recent evidence suggests that the cost-effectiveness of early childhood programs can depend critically on the characteristics of the targeted group with significant net fiscal returns for the most disadvantaged children, but not for those with less disadvantage (Karoly, et al., 1998).

With respect to school resources, the consensus until recently among social scientists was that providing schools additional resources would have little impact on student achievement—the so-called "money doesn't matter" thesis (Ladd, 1996). This counter-intuitive view actually dated from the "Coleman Report" which found family influence strong and little effects of school resources" (Coleman et al., 1966). Influential reviews by Eric Hanushek (1989, 1994, 1996) also argued that evidence from over 300 empirical studies provided no consistent evidence that increased school resources raised achievement scores. While this view was always challenged by many educators, policymakers and parts of the research community, the empirical evidence simply suggested otherwise.

This scholarly consensus began to crack in the early 1990s. Hedges and his colleagues conducted a formal meta-analysis of the studies that Hanushek had reviewed. They found that most of these studies lacked the

statistical power to detect resource effects even when they were quite large. When Hedges and his colleagues pooled data from all available studies, the results indicated a positive, statistically significant effect and provided some evidence that some programs may have large effects (Hedges et al., 1992; Hedges and Greenwald, 1996). Other work more often conducted with alternate methodologies like Hierarchial Linear Modeling rather than the "production function" framework used in the econometric community often showed positive effects of resources.[1]

Nevertheless, Hanushek made one argument that was hard to rebut. Measured in constant dollars, expenditures per pupil doubled between the late 1960s and the early 1990s. Yet the National Assessment of Educational Progress Tests (NAEP) of representative samples of 9, 13 and 17 year old children seemed to show little improvement during the period when resources rose so rapidly. The increases in overall NAEP scores from the early 1970s to 1992 were between .10 and .20 standard deviation for 9, 13 and 17 year old youth.

However, accumulating evidence is now challenging the accuracy of previous empirical studies, the historical rate of growth of educational expenditures, and the lack of improvement in achievement scores. This evidence includes:

- Evidence that minority and less advantaged children have made substantial gains in test scores in the 1970 to 1990 period, but more advantaged white students have made only small gains;
- Evidence that the timing of score gains of minority children seem to be related to both the civil rights and war on poverty efforts as well as declines in class size;
- Evidence that increases in educational resources from 1967-1991 available to increase achievement of regular students has been markedly overestimated;
- Evidence that the more limited real resources available to increase achievement scores from the late 1960s to the early 1990s was disproportionately targeted at minority and lower income children;
- Re-analysis of experimental data on the effect of class size;
- Evidence that model specifications used in many previous studies involving non-experimental data have been flawed.

We first discuss the evidence from NAEP scores and the companion findings concerning resource growth and targeting. We then discuss several hypotheses for large black score gains in the 1970s and 1980s and the correspondence with experimental data on the effects on class size. Finally, we discuss why estimates on the effects of resources from non-experimental data are now being seriously challenged, and probably have to be discounted in favor of the experimental data.

Rising Resources and Rising NAEP Scores

The often quoted evidence that real per-pupil resources doubled in education from the late 1960s to early 1990s while NAEP scores stagnated is wrong for four reasons. First, although mean NAEP scores did not rise much, this was partly because of rapid growth in the low-scoring Hispanic population. When disaggregated, scores for all racial/ethnic groups rose in reading and math for all age groups. Non-Hispanic whites scores rose by smaller amounts, while scores for Hispanics and blacks rose dramatically.

More recent analysis using NAEP data is focusing on the overlooked, but unprecedented gains in minority NAEP scores in the 1970s to the mid 1980s, and their subsequent lack of gains (Grissmer, et al., 1998a; Grissmer, 1998b, Cook and Evans, unpublished; Hedges, et al., 1998; Hauser and Huang, 1996; Hauser, 1996). The size of the gains were between .3 and .8 standard deviation across all age groups and subjects. One hypothesis arising from these papers is that rising black scores may be due

to changes in schools for black students (perhaps aided by Title I funds) and/or a change in the behavior of black parents, children and their teachers stemming from the Civil Rights and War on Poverty legislation which may have significantly changed their incentives for achievement and their schooling experience (Grissmer, et al., 1998a).

The most striking feature of the NAEP results for blacks is the size of adolescents' gains for cohorts entering from 1968-72 to 1976-1980. These gains were .6 standard deviation averaged across subjects. Such large gains for very large national populations over such short time periods in tests similar to NAEP are rare, if not unprecedented. Scores on IQ tests given to national populations seem to have increased gradually and persistently throughout the twentieth century, both in the United States and elsewhere (Flynn, 1987; Neisser, 1998). While evidence exists for large gains on the RAVENS test, which measures a narrower ability than tests like NAEP, the gains on tests similar to NAEP have averaged about .02 standard deviations per year—a fraction of the black rate in the 1980s. No one has been able to explain these gradual, persistent gains in IQ scores, nor do we know whether the gains are larger for minority or other subgrouping of the population (Flynn, 1987). But no evidence exists in this data involving large populations showing gains of the magnitude made by black students over a 10 year period.

It is even unusual to obtain gains of this magnitude in intensive programs explicitly aimed at raising test scores. Early childhood interventions are widely thought to have the largest potential effect on academic achievement, partly because of their influence on brain development. Yet only a handful of "model" programs have reported gains as large as half a standard deviation (Barnett, 1995). These programs were very small scale programs with intensive levels of intervention. Even when early childhood programs produce large initial gains, the effects usually fade at later ages. Among blacks who entered school between roughly 1968 and 1978, in contrast, gains were very large among older students and were not confined to small samples, but occurred nationwide.

Large changes in scores of .5 standard deviation and more, which are sustained through older ages, have been observed when sustained interruptions in schooling occurs at younger ages (Ceci and Williams, 1997). Black students typically gain about .4 standard deviations a year on the NAEP tests between the ages of nine and thirteen. In terms of "grade equivalents," therefore, black adolescent gains were equivalent to approximately 1.5 years of additional schooling. The large black gains sustained for older students suggests that there may have been a major change in the quality of blacks' school experience beginning in the late 1960s. This change in school experiences could reflect social and legal changes aimed at equalizing educational opportunity, additional educational resources that were especially helpful for black students, and the implementation of civil rights legislation creating new job opportunities for academically successful blacks, which may have made black students more eager to take advantage of any opportunities their schools provided.

The second part of Hanushek's argument, that massive amounts of additional money in real terms were provided to schools, was undercut by research that showed that that real increases in educational expenditures was far less than the CPI adjusted per pupil expenditure data would indicate. Use of more appropriate indices for adjustment of educational expenditures due to their labor intensity provides much smaller estimates of real growth (Rothstein and Miles (1995), Ladd (1996a)). Third, a significant part of the smaller estimated increase went for

students with learning disabilities, many of whom are not tested.[2] A significant part also went for other socially desirable objectives that are only indirectly related to academic achievement. Taking into account better cost indices and including only spending which would have been directed at increasing achievement scores, Rothstein and Miles (1995) concluded that the real increase in per pupil spending on regular students was closer to 30 percent than to 100.

Finally, whether additional resources can be associated with increased test scores depends on how increased spending was distributed. The evidence in Rothstein and Miles, 1995 shows that a disproportionate amount of resources was directed toward minority and lower income students or to programs that would be expected to benefit disadvantaged students more.[3] Scores of minority students and lower scoring white students all showed large gains. The argument that additional resources did not matter fails for these students. However, if significant additional resources were also directed toward advantaged students, the evidence would show minimal gains. The lack of gains for higher scoring non-Hispanic white students may indicate that additional resources directed toward them may not have mattered, but did matter for the rest of students (Grissmer, et al., 1998a).

Newer Research Evidence and the Tennessee Experiment

Newer studies using better and more recent data are beginning to show more consistent and positive effects from resources (Ferguson, 1991) (Ferguson and Ladd, 1996; Raudenbush et al., forthcoming). Two books published in 1996 addressing the questions of the effect of school resources on both short term educational outcomes and longer term labor force outcomes were unable to explain the apparent diverse results from the literature (Ladd, 1996b; Burtless, 1996). While unable to explain the diverse results, the summaries focused attention on more specific and testable questions (which uses of money matters) and on the critical methodological assumptions underlying much of the literature.

The most important new evidence for challenging the view that money doesn't matter comes from a large scale experiment in Tennessee on the effects of class size. Well designed and implemented experiments have significant analytical advantage over non-experimental results which always rests on many explicit and not so explicit assumptions. The large, multi-district study in Tennessee randomly assigned about 6,000 students to reported class sizes of approximately 14 or 22 students in grades K-3.[4] The original results found that reducing class size between kindergarten and third grade had raised achievement scores by about .25 standard deviation, but effects were larger for black students and those receiving free lunches (Word et al., 1990; Finn and Achilles, 1990; Mosteller, 1995, Finn and Achilles, 1999). The results also suggest that teacher aides have a small positive effect, but this effect was not statistically significant.

After the initial analysis, there were significant questions concerning whether the inevitable departures from experimental design that occur in implementing such experiments biased the results. A new analysis has undertaken a more rigorous analysis addressing these departures and obtained similar results (Krueger, 1998). The effects of being in a smaller class from K-3 estimated from Krueger's equations is from .19 to .24 standard deviations. The estimated effects for white and black students was .17 and .26 standard deviations respectively. Following the experiment, Tennessee also cut class sizes to about 14 students per class in 17 school districts with the lowest family income. Comparisons with other districts and within districts before and

after the change showed even larger gains of .35 to .5 standard deviations (Word, et al., 1994; Mosteller, 1994). Thus, the evidence here suggests that class size effects may grow for the most disadvantaged students. Perhaps more importantly, Krueger's analysis suggests that the methodology being used in the "best" models being used to estimate non-experimental data could not replicate the Tennessee results. Models using previous year's test scores as controls, a measure used by Hanushek, 1996 to select the best studies, would measure only a small part of the class size effect because most of the effect was measured in the first year that students attended smaller class sizes in Tennessee. On the other hand, pure cross-sectional models without previous years scores could duplicate the Tennessee results. This observation meant that previous reviews could not be used to assess effects since they included many measurements with flawed specifications.

Grissmer and Flanagan, 1998a focus on the methodological implications of the sustained effects through 8th grade from smaller classes in K-3. Although all children were returned to larger classes in grades 4-8, the children who were in smaller classes in K-3 had higher achievement scores in 8th grade than those in larger classes in K-3 (Finn and Achilles, 1999). Moreover, the more time children spent in smaller classes in K-3, the larger is the sustained effect through 8th grade (Nye, et al., 1999). However, the difference had declined from the 3rd grade level. This finding indicates that class size in K-3 is still changing achievement scores through 8th grade. The methodological implication is that empirical models that do not have historical data for all years of school may be biased.

A second set of results from a quasi-experiment in Wisconsin is providing a set of results similar to Tennessee. Reductions in class size that were similar or larger than Tennessee targeted toward schools with higher proportion of Title I students shows achievement effects similar to the Tennessee results (Molnar, et al., 1999).

A key question is why smaller class size boosts achievement. More recent research is identifying what teachers and students do differently in small and large classes (Finn and Achilles, 1999; Betts and Skolnick, 1999; Molnar, et al., 1999; Rice, 1999). The preliminary picture is that teachers spend less time in discipline and administrative tasks, but more in actual instructional time. Teachers in classes with more disadvantaged students spend more time on non-instructional tasks (discipline and administration), so class size reductions result in a much greater boost in time on instruction than in classes with fewer disadvantaged students. Teachers in small classes also spend more time in individualized learning rather than lectures.

TRENDS IN STATE ASSESSMENT SCORES

It is not possible with the long term national NAEP scores to compare states, due to insufficient sample size. However, since 1990 the NAEP tests have been administered to representative samples of students in about 44 participating states. Table 1 describes the seven tests that have been given in reading and math at the state level. Gains in scores can be estimated between 1990 and 1996 for eighth grade math scores, between 1992 and 1994 for fourth grade math tests and between 1992 and 1994 for fourth grade reading tests.

The educational systems in our states show a remarkable amount of variance in many of the key characteristics that are often hypothesized to cause achievement differences for students. In 1993, average pupil/teacher ratios among states varied from twenty-four in California to twelve in Vermont. Levels of spending per student varied from $9500 in New Jersey to $3000 in Utah and Mississippi. Teacher salary

levels range from almost $52,000 in Connecticut to less than $27,000 in North and South Dakota, while a measure of the experience of the teaching force – proportion of teachers over age 50 – varies from 11 percent in West Virginia to almost 30 percent in Connecticut. The proportion of teachers with advanced degrees varies from over 80 percent in Indiana to less than 20 percent in North Dakota.

While states have always had significant influence over K-12 educational policies in this country, that influence has increased even more during the latest wave of educational reform dating from the mid to late 1980s. States are even more influential in determining how much is spent on K-12 education and how much difference in per pupil spending occurs across school districts. States have established minimum teacher salary levels, strengthened teacher certification and student promotion and graduation requirements. States have established new rules governing class sizes. States have also taken the initiative to establish state-wide assessment systems and use the results to provide feedback and accountability at the classroom, school and school district level. Many states have also initiated charter schools, school choice options and contracting out of schools. Having fifty states taking different approaches to education can provide a powerful advantage in the long run if research and evaluation can identify successful and unsuccessful approaches, define the context in which programs work best, and improve our understanding about what policies work and do not work for specific kinds of children. If this occurs, successful policies and practices can be adapted across states in a continual and ongoing process of improving education. Evaluating the impact of different and changing state policies then becomes an integral part of improving our schools and student outcomes.

The NAEP data can provide comparable measures of achievement across states. The test score data contains 271 scores from 44 states. This data has both strengths and weaknesses with respect to other data sets in providing analytical results. And the lack of consensus about how to appropriately specify models for non-experimental data will increase the uncertainty associated with any non-experimental study. So the results from the state scores must be placed in this context.

A preliminary analysis of these scores has been done using random effect models and utilizing Census data to overcome certain deficiencies in the family data associated with the NAEP data (Grissmer, et al., forthcoming). From the standpoint of the Title I program, the results reinforce the results from the Tennessee experiment and tend to support the new paradigm. Once family differences across states are controlled, the results show pupil-teacher ratio to be associated with higher average state scores, and effects are larger in states with more disadvantaged students. States that have large proportions of low income children in public pre-kindergarten – other things equal – have higher average state scores. The results of the models developed in this analysis are consistent with the results from the Tennessee experiment. However,

TABLE 1
DESCRIPTION OF SEVEN STATE NAEP READING AND MATH TESTS

Year	Subject	Grade Level	States Tested	Range - Student samples	Range - School samples
1990	Math	68	38	1,900-2,900	30 – 108
1992	Math	88	42	1,900-2,900	44 – 143
1992	Reading	44	42	1,800-2,800	44 – 148
1992	Math	44	42	2,000-2,800	28 – 112
1994	Reading	44	39	2,000-2,800	51 – 117
1996	Math	88	44	1,800-2,700	51 – 132
1996	Math	44	41	1,800-2,700	30 – 116

until we understand more about how teachers change their behavior under different class sizes, no set of results from "production function" models for non-experimental data will be seen as definitive.

The state NAEP trends show that states are making different rates of progress in improving scores. Texas and North Carolina are among the states having the highest rates of improvement. These NAEP improvements are mirrored by their state assessments as well. A recent study of these gains suggests that state "systemic initiative" reforms is the leading hypothesis that may explain such large gains (Grissmer and Flanagan, 1998b). These initiatives include setting clear standards by grade, assessing the students using these standards, and initiating accountability at the school level. These initiatives also included holding all students to the same standards, efforts to equalize spending across districts, and building effective feedback systems to teachers and principals on assessment results.

NOTES

[1] For two recent examples see Gamoran, 1996 and Raudenbush, forthcoming.

[2] All sides agree that a disproportionate fraction of the expenditure increase during the NAEP period was directed toward special education (Lankford and Wyckoff, 1996; Hanuskek and Rivkin, 1997). Hanushek and Rivkin estimate that about a third of the increase between 1980 and 1990 was related to special education. NAEP typically excludes about 5 percent of students who have serious learning disabilities. However, special education counts increased from about 8 percent of all students in 1976-77 to about 12 percent in 1993-94. These figures imply that 7 percent of students taking the NAEP tests were receiving special education resources in 1994, compared to 3 percent in 1976-77. This percentage is too small to have much effect on NAEP trends, but it should in principle have had some positive effect.

[3] Rothstein and Miles data analyzed detailed data in only 9 school districts. More evidence is needed nationally concerning the relative allocation of additional resources among different types of students. There is little doubt that many new programs were initiated or expanded directed toward minority or low income children. These included compensatory education programs like Title 1 and HEADSTART, efforts within states to change to more equitable funding formulas and desegregation initiatives. However, more direct evidence nationally based on school district funding levels for more and less advantaged districts is needed.

[4] These class size figures of 22 and 14 are commonly cited. However, these may only reflect the number of students per class who were tested(communication with Jeremy Finn). Other figures for average class size and student/teacher ratio in Tennessee around 1985 would suggest that the actual class sizes were closer to 25 and 17 in the experimental and control groups.

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INSTRUCTION, POVERTY, AND PERFORMANCE

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INTRODUCTION

Like many other states in the late 1980s and early 1990s, California sought to enrich the quality of teaching and learning in its public schools. For the first time since the curriculum reforms of the late 1950s, a broad movement had emerged to raise the quality of instruction in the nation's elementary and secondary schools. But unlike the '50s reforms, which were led by academics and federal agencies, this new wave of efforts was championed by governors and legislators, top state education officials, and business leaders. California adopted new, ambitious instructional goals intended to make classroom work more intellectually rich and demanding. The state aggressively tried to change curriculum, testing, and teachers' knowledge, beliefs, and practices. One result was an ambitious and fairly comprehensive effort to support more challenging instruction in the core subjects. Another result was heated controversy about the reforms, which inflamed the state during the early and mid-1990s, and has slowed or stopped the reforms by now.

Still another result was an opportunity for researchers to learn more about the conditions under which ambitious instructional policy affects classroom practice, and whether changes in practice affect student performance. That issue is important, because past research has shown that typical classroom instruction tends to focus on discrete basic skills without any connection to underlying ideas and concepts, thus limiting students' opportunities to learn. The issue also was timely, for the recent wave of school reforms were not only unusually ambitious, but also more likely to affect practice than the curricular reforms of the late 1950s. One reason why is the fact that the newer reform efforts were sponsored by state policymakers, which gave the reforms more influence, and brought the newer reform efforts closer to the classroom. Another is that many of the recent initiatives were better designed than the curriculum reforms. While earlier efforts to focus teaching on broader meaning and

understanding, not just basic skills alone, had wilted under the pressure of existing classroom arrangements, teachers' attitudes, and their knowledge,[1] perhaps the later, more forceful, and better designed reforms would meet with more success. If they did, something could be learned about the conditions under which policy can affect teaching and learning.

A second issue—if policy did affect practice, and thus offer improved learning opportunities to students—is whether those effects were distributed equally across the state's classrooms. The importance of this issue is underlined by research showing that instruction and educational opportunities vary by students' social class and ethnicity, and that educational opportunities in turn have appreciable effects on student's life chances and political participation. Looking back at research, one would predict that disadvantaged students would be afforded fewer opportunities to engage a "thinking curriculum" like the kind promoted by the California math reforms. But unlike the 1950s curriculum reforms, the recent efforts in California and other states occurred after several decades' of active, though at times uneven, concern, with problems of inequality. During the intervening decades, California made extensive efforts to reduce educational inequality with a variety of programs, and awareness of these problems is much greater now than when Admiral Rickover, Jerrold Zacharias and others led a national movement for excellence though curriculum reform partially in response to the pressure of Cold War competition. One bit of evidence for this changing attitude is that the recent reforms laid great stress on the idea that "all students" should benefit equally from California's efforts to improve teaching and learning. Perhaps unequal access to a thinking curriculum could be reduced by such efforts.

We are members of a research group at Michigan State University that has been working for a decade to learn how the new curriculum reforms affect practice, and thus offer improved learning opportunities to students. We examined documents, followed state and district offices leaders, visited elementary classrooms in three school districts, followed the same teachers for four or five years, and studied efforts to improve teachers' knowledge and skill in various professional development projects. This research focused on both reading and mathematics.

In order to test the breadth of our findings about the extent of change in math teaching, we supplemented those studies with a survey of the state's elementary school teachers.[2] We found that instructional policy can indeed influence practice, and student achievement—but only under certain conditions. Policy alignment of curriculum, assessment, and professional development policies seemed helpful, but not sufficient, to have a significant impact on changing instruction. Teachers also needed opportunities to learn the practices, views of student learning, and subject matter associated with the reforms. Our research showed that in California these learning opportunities for teachers were supplied in some part by policy supporting teacher learning, and also by a "marketplace" of professional development and curriculum providers helping educators translate the reforms into everyday practice. Improved mathematics instruction depended on teachers taking advantage of opportunities to learn about improving their teaching. Thus, while the state's ambitious mathematics assessment only fostered modest change among all teachers, there was more substantial change among a smaller percentage of teachers who used the assessments as an opportunity to rethink and revise their classroom instruction. We proposed in 1998 an "instructional model of instructional policy," teaching teachers about policy goals.[3]

In this study, we focus on the quality of mathematics instruction offered to children

in high-poverty California elementary schools – the very children likely to receive Title I services – and especially on inequality of access to the improved instruction that state leaders were pressing. We probe whether reformed practices have equally reached the state's classrooms, and whether the conditions that foster improved practices are equally available to teachers of students of different social class backgrounds.

We hope, in the process, to improve on much existing research on social class and classroom instruction. While there has been extensive study on the relationships between social class and conventional school resources, there has been much less work on the relationships between social class and instruction. Most existing studies examine cases of a few schools or classrooms, but we have a sample of an entire state's elementary schools; that creates a much more adequate base from which to make generalizations. This will help us understand key barriers to Title I effects.

In addition, since most of the existing studies focus only on schools that enroll poor children, comparisons with instruction offered to more advantaged students are limited or impossible. Our sample of schools solves that problem. Since our data also arise from an unbiased random sample of elementary schools in America's most populous and diverse state—rather than just a few schools or classrooms whose representativeness is unknown—we can have more confidence in the representativeness of the results. Finally, the large sample and the extensive data set mean that when differences in instructional practices are observed to be strongly related to student social class, we are able to test alternative explanations.

We begin with a brief account of the milieu from which the California math reforms arose, and then outline our earlier investigation of the extent to which those reforms were actually enacted in classrooms. We turn next to inequality, reporting on the extent to which teachers' beliefs and instructional practices are linked to their students' social class. We then use our model of instructional policy to explain how social-class differences in curriculum and instruction arise. In the final section, we briefly consider how our work might inform efforts to focus Title I more directly on more substantial instruction and stronger student achievement.

RESEARCH AND REFORM

Throughout the 1970's, academic experts and government agencies pressed schools to emphasize basic skills in order to raise low student achievement, particularly in schools enrolling high concentrations of poor students.[4] But policymakers began to move away from these remedies during the 1980s. The Education Department's 1983 report *A Nation At Risk* criticized schools for intellectually lax work, and laid out an agenda calling for more rigorous academic content and more demanding teaching. The report artfully straddled the wars over whether schools should push the "basics" or intellectually more demanding work, by arguing for a version of the latter but referring to it as "the new basics", and avoiding many specifics. These specifics were left to cognitive psychologists, subject-matter specialists, teacher professional organizations, and then to policymakers, who cobbled together the groups' ideas about student learning, challenging instruction and appropriate content, often with little explicit thought about the special needs of high poverty schools.

California's mathematics reform was an early fruit of these efforts. Using cognitive psychologists' ideas about the importance of students' understanding and active learning and mathematics educators' ideas about rooting instruction in the discipline, California's 1985 and 1992 curriculum frameworks outlined major changes for the state's math classrooms. Reformers urged

teachers to develop student thinking and reasoning by encouraging classroom discussions about math, and supplying opportunities for extended exploration of mathematical ideas. Teachers were also encouraged to use concrete materials and everyday examples to help students understand new ideas, and to delay teaching algorithms and requiring the memorization of "basic skills" until students had a firm grasp of the principles underlying them. The mathematics frameworks also emphasized the importance of communication skills, and recommended that students write on their math assignments and tests, and keep math journals. Finally, because some cognitive psychologists saw the construction of knowledge as a social enterprise, reformers encouraged 'groupwork' and cautioned against homogeneous tracking of students. The goal was greater capacity to think mathematically and to succeed in further work in math and science.

Our qualitative fieldwork in the late 1980s and early 1990s found many teachers eager to engage in the beliefs and practices espoused by reformers. But the group also found that teachers' interpretations of reform were shaped by their prior, typically quite limited understanding of mathematics and mathematics instruction, and that in turn limited the actual changes teachers made in the classroom. Further, some reform elements were more popular than others; groupwork and hands-on materials, for instance, were all the rage while extended exploration and discussion of mathematical ideas were less frequent. These differences arose in part because the latter practices require more substantial revision in teachers' pre-existing beliefs and practices, and a more thorough knowledge of, and comfort with, mathematics.[5]

We know of no research on how adoption of the California reforms varied among students of varying social and economic background. Researchers have argued that there is a "Great Divide" in access to quality instruction in the U.S.: students in more affluent schools have more opportunities to develop advanced skills and conceptual understanding, explore challenging content, and exert more control over the development of knowledge. Students in lower-status schools are instead subject to "transmission" styles of instruction, the teaching of discrete "basic skills" and algorithms unrelated to concepts, and more repetition of less challenging content (Allington and McGill-Franzen; Anyon 1981). These styles have been reinforced by the "conventional wisdom" and expert advice regarding education for disadvantaged students offered by Title I and other government programs (see Knapp & Woolverton 1995; Knapp & Turnbull 1990; O'Day and Smith 1991).[6] But the evidence for these generalizations is not overwhelming. Some scholars, for instance, have described the kinds of instruction available in remedial programs, to students thought to be failing in regular classroom instruction (Allington & McGill-Franzen; Rowan, Guthrie, Lee & Guthrie 1986).[7] But while student social class is clearly *correlated* with placement in such remedial programs, generalizing about social class and schooling from this kind of research would be improper given that the independent variable or "treatment" is students' academic status, rather than their social class. Another major study of instruction in high-poverty classrooms limits what it can say by virtue of the fact that it investigates only selected high-poverty classrooms; there are no affluent schools included in the mix for comparative purposes.[8] Few studies compare instruction and curriculum in schools serving different social classes,[9] and those that do exist are modest in the number of actual classrooms they study. One recent exception to this rule is the work of Raudenbush et al. (1997). Using National Assessment of Educational Progress data, Raudenbush identified a positive association between parents'

educational level and the probability their child would encounter a teacher who emphasized mathematical reasoning during instruction.[10]

An alternative view is that instruction for lower-status students is a weaker version of the conventional and routine curriculum and instruction that is offered in most schools. Smith and O'Day (1991), for instance, argue that while basic-skills reforms were originally designed for disadvantaged students, the "back to basics" movement quickly permeated schools nearly everywhere. Gehrke, Knapp and Sirotnik's (1992) review of curricula in three subject areas found little intellectual challenge anywhere, a finding that echoes other research.[11] In fact, the recently completed Third International Mathematics and Science Study found no U.S. examples of classrooms of any sort offering lessons that contained "a high-quality sequence of mathematical ideas."[12]

The Survey and Measures

To gauge teachers' responses to reform across the state, the Michigan State research group conducted a one-time survey of nearly 1,000 second through fifth grade teachers in California in late 1994 and early 1995.[13] The survey inquired about several topics: what teachers thought about mathematics instruction and student learning, and what they actually did in their own classrooms; what kind of curricular materials and manipulatives they relied upon; where they learned about the mathematics reforms, and how much time they spent in those learning opportunities. They were also asked to describe conditions that might affect their own and students' work, including district and school support for the new frameworks, professional interactions with other teachers, and the availability of various resources and parental support. Other research has shown that while teachers tend to over-report the extent to which they have adopted advanced math practices, their relative self-placement on a scale was consistent with the relative placement made by an outside observer.[14]

The measure of student social status is obviously crucial, for the less valid that measure is, the less valid our reports on inequality in access to improved instruction would be. Though the survey asked teachers how many students in their classroom were eligible for Title I (then called Chapter I), nearly one-sixth of the respondents did not answer this question; such non-response would be damaging. Our worries about the measure were compounded by possible inconsistencies between students' Title I status as reported by their teachers and the students' true social class.[15]

To protect against these problems we use another measure for student social status: eligibility for the Free Lunch Program. Using state identification numbers, we linked school records from our survey to the 1994 NCES Common Core of Data file,[16] which provides an estimate of the percent of free-lunch eligible (FLE) students within each school,[17] giving a more accurate picture of student poverty status for each school as a whole. The measure enables us to compare classrooms from schools composed of affluent and disadvantaged students, which should offer at least a rough estimate of Title I-eligible students' access to ambitious classroom instruction.

Examination of family poverty reveals much about the condition of education in California in the early 1990s. In the average elementary school, nearly one-half of the students were designated as free lunch-eligible. Though some schools had very few students designated as free lunch-eligible, more than 10 percent of the schools had very high concentrations of poor students, with 90 percent or more students so designated.

To make the analysis easier to present in cross-tabulations, we broke teachers into three groups, on the basis of the student populations they served. There are between 185 and 195 teachers in each group,[18] which

will yield cross-tabulations with adequate case bases.

- **Affluent**: teachers in schools where between 0 and 40 percent of students are free-lunch eligible (FLE);
- **Mixed**: teachers in those in schools where between 40 and 70 percent of students are free-lunch eligible.
- **Disadvantaged**: teachers in schools where more than 70 percent of students were free-lunch eligible.

In the following section, we discuss our probe for differences among these three groups' beliefs about mathematics instruction, and reports of classroom practices.

INSTRUCTIONAL BELIEFS AND PRACTICES

By some measures of reform ideas and practices, there are few differences in this sample between teachers of disadvantaged and more affluent students. For example, teachers endorsed groupwork – and said they practice it in their classroom – in about equal numbers across the three categories of student social background (not shown). In the area of basic skills (Table 1), teachers reported extensive student computational practice and testing, regardless of their students' social class. Teachers' beliefs about the basics did appear statistically different in two of three measures, but the differences were slight. Teachers of lower SES students were marginally less likely to believe students need to acquire the "basics" before being introduced to problem solving, but slightly more likely to say their primary goal was for students to master basic skills. But on at least two major counts, teachers' attitudes toward mathematics instruction did not vary significantly by student social background.

Further, the differences teachers did report were only mildly contrasting interpretations of the reforms' meaning. For instance, teachers of disadvantaged students were slightly *more* enthusiastic about the "everyday context" and "hands-on" ideas that were part of reformers' message. While the belief item "Students learn best when they study mathematics in the context of everyday situations" was not disproportionately endorsed by any of the three groups, the similar belief item (Table 2) "Teaching a mathematical concept should begin with a concrete example or model" was slightly more likely to be supported by teachers of low-income students. Teachers of low-income students also were slightly more likely to use more math manipulatives in their classrooms (Table 3). Thus teachers of low-SES students did not lag behind their suburban peers in enthusiasm for the hands-on aspect of reform. If anything, they outpaced them.

In contrast, however, teachers of low-income students were a bit less likely to see the reforms as an occasion for student discovery and exploring mathematical ideas. They also were more attached to teacher-focused instructional styles. (Table 4).

TABLE 1
TEACHERS' BELIEFS ABOUT BASIC SKILLS BY STUDENT STATUS

Number of teachers who: (row %)		Disagree	Neutral	Agree	Total
Students need to master basic computational facts and skills before they can engage effectively in mathematical problem solving*					
	Affluent	72 (37%)	51 (26%)	75 (38%)	198 (34%)
	Mixed	62 (33%)	57 (31%)	67 (36%)	187 (32%)
	Disadvantaged	90 (47%)	40 (21%)	62.5 (32%)	193 (33%)
	Totals	225 (39%)	148 (25%)	205 (35%)	578 (100)
If elementary students use calculators, they won't learn the mathematics they need to know					
	Affluent	146 (74%)	39 (20%)	14 (7%)	198 (34%)
	Mixed	144 (77%)	29 (16%)	14 (7%)	187 (32%)
	Disadvantaged	127 (66%)	45 (24%)	20 (10%)	192 (33%)
	Totals	416 (72%)	113 (20%)	47 (8%)	577 (100)
In teaching mathematics, my primary goal is to help students master basic computational skills**					
	Affluent	111 (56%)	62 (31%)	24 (12%)	197 (34%)
	Mixed	93 (50%)	74 (40%)	20 (10%)	187 (32%)
	Disadvantaged	102 (53%)	58 (30%)	32 (17%)	193 (33%)
	Totals	307 (53%)	194 (34%)	76 (13%)	577 (100)

* p = .05 in chi-square, **p=.15 in chi-square

TABLE 2
TEACHING WITH CONCRETE EXAMPLES, BY STUDENT SOCIAL CLASS*

Number (row %)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Affluent	6 (3%)	21 (11%)	41 (21%)	53 (27%)	76 (39%)	196% (33%)
Mixed	4 (2%)	7 (4%)	58 (29%)	50 (25%)	79 (40%)	199 (34%)
Disadvantaged	5 (3%)	10 (5%)	45 (24%)	39 (20%)	91 (48%)	190 (33%)
Total	15 (3%)	38 (6%)	144 (25%)	142 (24%)	246 (42%)	585 (100%)

* p=.07 in chi-square

TABLE 3
TEACHERS' USE OF MANIPULATIVES BY STUDENT SOCIAL CLASS*

Number (row %)	Five or fewer manipulatives	Six or more manipulatives	Total
Affluent	117 (59%)	80 (41%)	197 (33%)
Mixed	124 (62%)	75 (38%)	199 (34%)
Disadvantaged	103 (53%)	92 (47%)	195 (33%)
Total	344 (58%)	247 (42%)	592 (100)

*Differences are significant in chi-square at p=.15

TABLE 4
TEACHERS' BELIEFS ABOUT EXPLORATORY INSTRUCTION BY STUDENT SOCIAL CLASS

Number (row %)		Disagree	Neutral	Agree	Total
Teachers should make students figure things out for themselves rather than tell them how to solve a mathematics problem*					
	Affluent	16 (8%)	72 (37%)	107 (55%)	196% (33%)
	Mixed	29 (14%)	47 (24%)	123 (62%)	199 (34%)
	Disadvantaged	23 (12%)	68 (35%)	101 (53%)	192 (33%)
	ALL	68 (12%)	187 (32%)	331 (56%)	586 (100)
Teachers should make sure that students are not confused at the end of a mathematics period					
	Affluent	33 (17%)	67 (34%)	95 (49%)	195 (33%)
	Mixed	35 (18%)	60 (30%)	103 (52%)	199 (34%)
	Disadvantaged	36 (19%)	49 (26%)	107 (56%)	192 (33%)
	ALL	104 (18%)	177 (30)	405 (52)	586 (100)
Students learn mathematics by discussing different approaches, even when some of them are wrong					
	Affluent	2 (1%)	29 (15%)	165 (84%)	197 (33%)
	Mixed	11 (2%)	24 (12%)	164 (83%)	199 (34%)
	Disadvantaged	6 (3%)	22 (12%)	163 (85%)	192 (33%)
	ALL	20 (3%)	75 (13%)	492.91 (84%)	588 (100%)

* p=.02 in a chi-square

A handful, perhaps twenty more teachers who work in affluent and mixed schools, were inclined to believe students should figure math relationships out for themselves. Teachers of disadvantaged students were slightly more likely to believe their role included making sure students are not mathematically confused at the end of class.

The survey also inquired into teachers' use of strategies designed to promote student exploration, discussion, and conceptual development (Table 5). Teachers of affluent students were more likely than those in mixed-SES schools to report that they often had students explore different ways to solve problems. These teachers also were more likely to report that they offered opportunities for students to work on projects for more than one day. Reformers recommend such activities, believing that extended investigations can help students develop mathematical knowledge. Teachers of affluent students also reported that they more often offered students problems with more than one correct answer.[19]

The impression that teachers' interpretations of reform differs by their students' social class is strengthened by inspecting the belief and practice items that relate to student writing (Table 6). Having students write about mathematics was intended to serve a number of purposes, including providing them the opportunity to make and support mathematical arguments. It was also intended to allow teachers to examine a student's line of reasoning, with an eye toward offering solutions when there is a misunderstanding. The differences on the belief item about student writing – "Students should write about how they solve mathematics problems" – are relatively small, with teachers in more affluent communities agreeing with the statement only slightly more often. But when actually putting this into practice, teachers in affluent schools far outdid those in poorer schools. About 50 percent of affluent teachers had their students write about how to solve problems once a week or more, while 21 percent of teachers had their students write only a few times a year.

Among teachers of disadvantaged students, this trend reversed: only about 29 percent had their students write at least once a week, while 35 percent had their students write a few times a year at most. Differences of the same magnitude and direction appeared in teachers' reports on whether their students wrote in math journals.

In summary, then, teachers of all students, regardless of class and poverty status, were likely to endorse and practice many of the reformers' major ideas, including using hands-on activities and having students work in groups rather than individually. But teachers everywhere are still fond of basic skills and more traditional math instruction. In fact, most teachers who responded to the survey appeared to interpret the reforms as only modest changes in students' mathematics activities. Earlier fieldwork revealed that such changes can be easily grafted onto existing practice, and in many cases seemed quite traditional.[20]

However, our most significant result shows significant differences. Perhaps ten percent of the teachers offered more rich and effective math instruction, by using new curricula and including students in the development and communication of their own mathematical ideas, among other things. These teachers were more likely to teach in wealthier suburbs than high-poverty schools. These differences are troubling, since these differences in teachers' interpretations and classroom enactment of reform have an impact on actual outcomes for students.

In a previous paper (Cohen & Hill 1998) we constructed survey measures of "average" mathematical instructional practices and curriculum use in our roughly 250 schools,[21]

and linked these to school outcomes on 1994 California Learning Assessment System (CLAS) data, in hope of establishing a relationship among policy, teacher practice and student performance. Results from this analysis[22] show clearly that student social status is still the foremost predictor of school performance. A school with *no* students eligible for free lunch scores in the neighborhood of one and a third points higher on the five-point CLAS scale than a school in which *all* students are eligible for free lunch, a large effect of just under three standard deviations of that dependent measure.[23] But reformed instructional practices also matter. A school whose teachers averaged a "4" on this scale fared about fifteen hundredths of a point better than a school whose teachers averaged a "3". Though less powerful than social status, this is about a third of a standard deviation of the CLAS performance level.[24]

TABLE 5
TEACHERS' REPORTS OF INSTRUCTIONAL PRACTICES
BY STUDENT SOCIAL CLASS

"..how often do students in your class take part in the following activities during mathematics instruction? (row %)		Never/Few times a year	Once or twice/ month	Once or twice/week or more	Total
Make conjectures and explore possible methods to solve a math problem*					
	Affluent	6 (3%)	37 (19%)	152 (78%)	196 (34%)
	Mixed	16 (8%)	45 (23%)	137 (69%)	199 (34%)
	Disadvantaged	25 (13%)	25 (13%)	138 (74%)	188 (32%)
	ALL	47 (8%)	107 (18%)	428 (73)	582 (100)
Discuss different ways to solve problems**					
	Affluent	5 (3%)	24 (12%)	166 (85%)	195 (33%)
	Mixed	14 (7%)	37 (19%)	147 (74%)	198 (34%)
	Disadvantaged	15 (8%)	25 (13%)	151 (79%)	191 (33%)
	ALL	34 (6%)	86 (15%)	464 (79%)	584 (100)
Work on individual projects that take several days*					
	Affluent	94 (48%)	73 (38%)	28 (14%)	195 (33%)
	Mixed	129 (65%)	46 (23%)	24 (12%)	199 (34%)
	Disadvantaged	130 (67%)	37 (19%)	26 (14%)	194 (33%)
	ALL	353 (60%)	157 (27%)	78 (13%)	588 (100)
Work on group investigations that take several days*					
	Affluent	103 (53%)	71 (36%)	21 (11%)	196 (33%)
	Mixed	129 (65%)	44 (22%)	26 (13%)	199 (34%)
	Disadvantaged	129 (67%)	39 (20%)	25 (13%)	193 (33%)
	ALL	362 (62%)	154 (26%)	72 (12%)	587 (100)
Do problems that have more than one correct solution *					
	Affluent	31 (16%)	62 (31%)	103 (53%)	197 (33%)
	Mixed	44 (22%)	77 (39%)	78 (39%)	199 (34%)
	Disadvantaged	54 (28%)	56 (29%)	86 (43%)	192 (33%)
	ALL	130 (22%)	195 (33%)	263 (45%)	588 (100%)

* indicates p<.01 in a chi-square; ** indicates p<.05 in a chi-square

TABLE 6
TEACHERS' REPORTS OF STUDENTS WRITING BY STUDENT SOCIAL CLASS

Number (row %)		Never/Few times a year	Once or twice/ month	Once or twice/week or more	Total
Write about how to solve a problem in an assignment or test*					
	Affluent	41 (21%)	58 (30%)	97 (50%)	196 (33%)
	Mixed	57 (29%)	73 (37%)	68 (34%)	199 (34%)
	Disadvantaged	68 (35%)	68 (35%)	56 (29%)	188 (32%)
	ALL	166 (28%)	199 (34%)	222 (38%)	586 (100)

*Difference significant at p<.001

TABLE 7
TEACHERS' REPORTS OF WHETHER STUDENTS WRITE IN MATH JOURNALS BY STUDENT SOCIAL CLASS

Number reporting that their students write in math journals (row %)*	Yes	No	Total
Affluent	102 (52%)	97 (48%)	197 (33%)
Mixed	73 (37%)	126 (63%)	199 (34%)
Disadvantaged	93 (48%)	102 (52%)	195 (33%)
Total	268 (45%)	323 (55%)	591 (100)

*Difference significant at p<.05

In comparison to student social class, which is still the overwhelming predictor of school test performance, policy instruments appear to be weak interventions. Yet the student social-status measures summarize a lifetime of inequalities and their effects in earlier grades, whereas the measures of curriculum and teacher learning only address a single year in students' school lives. Benefits of strong instructional interventions might cumulate over many years of schooling.

School conditions, as reported by teachers, also had an impact on student performance. These factors included parental support of instruction, student turnover rates, and the maintenance of school facilities. We turned the three items into a scale and included that in the prediction of student performance. Better school conditions (i.e. less turnover, more parental support) were associated with higher school average CLAS scores. This is especially significant, for school conditions and student free-lunch status are far from

identical: the overall correlation was .64. Despite enrolling a population of nearly all disadvantaged students, some schools report average or above-average school conditions, and high-poverty schools that do have such negative conditions also have slightly higher student performance.

EXPLAINING THE DIFFERENCES

We have shown that there were modest student social class differences in teachers' beliefs about math instructions, but that there were more significant student social class differences in teachers' reports of teaching practice. Most importantly, we have shown that the small fraction of teachers who actually offered a significantly richer math curriculum (as viewed by reformers) were more likely to teach in schools enrolling students from more affluent communities. To account for these differences among students' opportunities to learn, we examine several hypotheses arising from earlier research and our own survey analysis.

Teachers' familiarity with reform ideas. One explanation focuses on what teachers knew about reform: perhaps teachers of disadvantaged students practiced as they did because of the way they "read" reform and interpreted its meaning. The survey contained a set of items that helped us understand what teachers thought reformers wanted. Teachers were asked to identify both the statements that were "core ideas" of the frameworks and those that were not. Most teachers correctly identified more than three-quarters of the statements. Further, there were few differences among teachers in richer or poorer schools on items like "all students should have a challenging … mathematics curriculum," "students learn from one another when they work together" and "topics such as probability and geometry need to be included in the elementary mathematics curriculum."

But differences among teachers by their students' poverty status did appear on a subset of items that tapped highly salient teaching practices. Seventy-seven percent of teachers of disadvantaged students identified the item "A mathematical idea is best learned if a student is first exposed to a concrete example" as part of the frameworks, as compared with only 59 percent of teachers who worked in upper-SES schools.

Teachers in high-poverty schools were thus more likely to view the "hands-on" part of reformers' message as quite salient, but less likely to recognize that "…writing about mathematics should be a regular part of mathematics instruction" was a critical dimension of the frameworks. While 94 percent of the teachers in "affluent" schools identified this idea as part of the standards, 85 percent of those in "disadvantaged" schools did so. This follows the pattern we found in the belief and practice items. Teachers in high-poverty schools were also more likely to think the four 'traditional' statements in Table 8 were included in the reforms while teachers in more affluent schools, and many reformers, would take the contrary view. These differences are again modest, but align well with the findings from belief and practice above.

One explanation for this result is that the differences are not due to a lack of will to change among teachers in high-poverty schools, but to their lack of familiarity with parts of reformers' message. For instance, perhaps the first two items in Table 8—and the neglect of student exploration and discussion strategies that they imply—result from a lack of knowledge that these things—student exploration and discussion—belong in the reforms. If so, teachers' lack of opportunities to learn about the reforms might be the culprit.

Opportunities to learn. We examine the distribution of how teachers' opportunities to

learn differ by their students' social class, in order to shed some light on whether teachers' learning shapes their interpretation of reform. Reformers opened various avenues for teacher learning about reform. One directly provided by the state was its reform documents, the California Mathematics Frameworks. An item on the survey asked teachers whether these were available to them and if so, whether they used them. The documents were equally available to teachers by student social class, which does not support the idea that differential access to reform documents would help explain teachers' interpretation of reform (Table 9).[25]

Teachers across our three groups also reported roughly the same opportunities to learn about the CLAS in the years preceding and during its administration in 1993-94. The formats for learning were diverse: teachers piloted the test, some helped score it, and others heard about it in state or district assessment workshops. All of these activities exposed teachers to the kinds of mathematics learning encouraged in the California Frameworks. Analysis of this data shows teachers who grasped these opportunities to learn actually changed their practice.

A second type of learning opportunity that might shape teachers' perceptions of reform was other kinds of professional development. During this period, many of California's professional development providers keyed their offerings to themes from the state's frameworks. Roughly three-quarters of teachers said that they had had opportunities to attend professional development about the new mathematics standards. These opportunities were distributed somewhat unequally across the three groups of teachers (Table 10).

TABLE 8
PERCENT OF TEACHERS IDENTIFYING ITEM AS "CORE IDEA" OF MATHEMATICS STANDARDS

	Affluent	Mixed	Disadvantaged
Whenever students ask how to solve a mathematical problem, teachers should provide a thorough explanation.*	12.5	20.5	22.8
Teachers should clearly explain to students how to solve a particular kind of problem they have never seen before.**	17.3	22.0	25.3
Students should demonstrate mastery of a particular mathematics concept before proceeding to the next concept.*	9.9	25.1	19.5
Students should work individually in mathematics to ensure they master the skills and are able to work on their own.**	18.5	11.2	20.0

* Differences were significant in a chi-square at p<.05
**Differences were significant in a chi-square at P<.15

TABLE 9
TEACHER REPORTS OF HAVING A PERSONAL COPY OF FRAMEWORK BY STUDENT SOCIAL CLASS

Number (Row %)	N/A	Available	Don't know	Total
Affluent	51 (26%)	137 (24%)	8 (4%)	197 (34%)
Mixed	29 (26%)	131 (23%)	7 (4%)	187 (32%)
Disadvantaged	53 (27%)	126 (22%)	16 (8%)	194 (34%)
Total	153 (26%)	394 (68%)	31 (5%)	578 (100%)

TABLE 10
TEACHERS' REPORTS OF PROFESSIONAL DEVELOPMENT BY STUDENT SOCIAL CLASS*

Number (row %)	No Prof'l Development about new math standards	Prof'l Development about the new math standards	Total
Affluent	35 (18 %)	163 (82%)	197 (33%)
Mixed	49 (25%)	150 (75%)	199 (34%)
Disadvantaged	55 (28%)	140 (72%)	195 (33%)
Total	139 (23%)	453 (77%)	592 (100%)

* p <.05 in a chi-square

Teachers of affluent students had more opportunities to learn about the frameworks. Yet this effect is modest, and simply observing that teachers of affluent students had more opportunities to learn does not explain the patterns we found. This general question provides no sense of the content of the learning opportunities and why they might encourage some teachers to view math reforms as more than just hands-on work with manipulatives.

More specific data on teachers' opportunities to learn help with this problem. We asked teachers whether, in the year before the survey, they had attended one of five different kinds of workshops that might familiarize them with the Frameworks, and if they had, how long they attended. These opportunities to learn took on two forms. In one group, which we term "special topics," teachers did attend a workshop and took home some mathematics activities. But they did so as part of larger projects that focused on classroom management techniques (cooperative grouping), involving parents in students' mathematical work (family math), or increasing race and gender equality in math (EQUALS). While these workshops did supply mathematical activities for students, they did not deeply investigate student learning, mathematical instruction, or mathematics itself – and teachers were unlikely to leave with any kind of coherent curriculum to take back to their classroom. Our previous work with this survey found that this sort of professional development was not associated with greater teacher engagement with novel beliefs and instructional practices, nor was it associated with less attachment to traditional mathematics. Further, these workshops were not related to increases in student performance on the fourth grade CLAS.

In contrast, the Marilyn Burns approach and mathematics replacement unit workshops actually focused teachers on student curriculum. Marilyn Burns Institutes are offered by experienced trainers and are focused on teaching specific math topics. Some focus on "replacement units**"** that she has developed. In some cases, teachers who attended these workshops one summer were able to return the next summer and continue. The "replacement units" are curriculum modules designed to be consistent with the reforms that center on specific topics, like fractions, or sets of topics. Unit authors devised these units to be coherent and comprehensive in their exploration of mathematical topics – to replace an entire unit in traditional mathematics texts, rather than just add in activities to existing curricula – and to support teacher as well as student learning. Teachers who attended replacement unit workshops worked through the units themselves, heard about how students responded to the units, and often had a chance to return to the workshops during the school year to debrief and discuss how the unit worked in their classrooms. These workshops not only increased teacher engagement with novel practices, but also helped teachers rely less on traditional mathematics instruction. Those changes paid off in student achievement: schools where teachers attended these workshops, revised their instructional practices, and used replacement units did better on the fourth grade CLAS than schools where teachers did not do these things.

TABLE 11
TEACHERS' OPPORTUNITIES TO LEARN BY STUDENT SOCIAL CLASS

Which of the following mathematics-related activities have you participated in during the past year and approximately *how much total time* did you spend in each? (e.g., if four 2-hour meetings, circle 2 -- "1 day or less").**	None	1 day or less	2-6 days	1-2 weeks	MT 2 weeks
Special Topics					
EQUALS.....	96.5	2.4	.9	.2	0
Family Math.....	81.7	12.9	4.3	.8	.3
Cooperative Learning.....	54.5	28.9	13.7	1.8	1.1
Student Curriculum					
Marilyn Burns.....	83.2	9.8	5.3	1.3	.3
Mathematics Replacement Units.....	58.9	22.7	14.2	1.7	2.5

*Numbers are percentages of respondents selecting that category, weighted to represent statewide population.
**Missing data assumed to be "none."

Teachers of different social classes reported unequal attendance at these workshops (Tables 12 and 13). Teachers of low-income students disproportionately attended cooperative learning, EQUALS, and Family Math professional development (Special Topics), while teachers of affluent students were more likely to have attended Marilyn Burns Institutes and replacement unit workshops (Student Curriculum). These differences extend to teachers' reported use of replacement units; teachers of affluent students reported using these framework-aligned curriculum resources at much higher rates than teachers in the other two groups (Table 14). And teachers of affluent students were also less likely to rely on traditional mathematics textbooks – many of which were quite conservative during this period – for their everyday instruction (Table 15). These patterns may explain the differences discussed earlier, in teachers' interpretation of the frameworks: teachers of affluent and poor students had slightly different means for learning what the new state standards entailed for their everyday practice. One set of professional development opportunities, which were disproportionately used by teachers of poor students, "taught" the frameworks by focusing on diversity and classroom-management issues and using discrete mathematical activities as the stuff from which everyday practice would be made. Another set of professional development opportunities, which were more often used by teachers of more affluent students, "taught" the frameworks by focusing on understanding student learning, mathematics, and mathematics instruction. In contrast to the activities more often used by teachers in poor schools, these offered teachers opportunities to learn a student curriculum that would support teachers' attempts to foster mathematical thinking and reasoning through extended-day investigations, student writing, and discussion. This was much closer to the ideas that reformers were promoting.

TABLE 12
TEACHERS' REPORTS OF ATTENDING
"SPECIAL TOPICS WORKSHOPS" BY STUDENT SOCIAL CLASS*

Number (Row %)	Did not attend	Attended	Total
Affluent	109 (55%)	88 (45%)	197 (33%)
Mixed	105 (53%)	94 (47%)	199 (34%)

Disadvantaged	78 (40%)	117 (60%)	195 (33%)
Total	292 (49%)	300 (51%)	592 (100%)

* differences significant at p<.001 in a chi-square

TABLE 13
TEACHERS' REPORTS OF ATTENDING "STUDENT CURRICULUM WORKSHOPS" BY STUDENT SOCIAL CLASS *

Number (Row %)	Did not attend	Attended	Total
Affluent	89 (45%)	109 (55%)	197 (33%)
Mixed	112 (56%)	87 (44%)	199 (34%)
Disadvantaged	118 (60%)	77 (40%)	195 (33%)
Total	292 (49%)	300 (51%)	592 (100%)

* differences significant at p<.01 in a chi-square

TABLE 14
TEACHERS' REPORTS OF USING REPLACEMENT UNITS BY STUDENT SOCIAL CLASS *

Number (Row %)	Used none	Used one	Used MT one	Total
Affluent	100 (51%)	51 (26%)	46 (23%)	197 (33%)
Mixed	134 (67%)	36 (18%)	29 (14%)	199 (34%)
Disadvantaged	118 (61%)	48 (25%)	28 (14%)	195 (33%)
Total	352 (60%)	136 (23%)	103 (17%)	592 (100%)

* differences significant at p<.001 in a chi-square

TABLE 15
TEACHERS' REPORTS OF TEXT USE BY STUDENT SOCIAL CLASS *

Q: Which statement best describes your use of a mathematics textbook?

Number (Row %)	Main resource	Use others equal to using text	Mainly use resources other than the text	Do not use a textbook	Total
Affluent	61 (32%)	62 (33%)	51 (27%)	15 (8%)	189 (34%)
Mixed	54 (30%)	66 (36%)	36 (20%)	27 (15%)	182 (33%)
Disadvantaged	53 (29%)	94 (51%)	29 (15%)	9 (5%)	185 (33%)
Total	169 (30%)	223 (40%)	115 (21%)	50 (9%)	556 (100%)

* differences significant at p<.001 in a chi-square

We created a "framework practice" scale of instructional practices and student writing, plus information on whether teachers had students work in small groups.[26] The underlying construct, we argue, is teachers' employment of reform practices. This scale's mean is 3.26, its standard deviation is .72, and its reliability is .85. This measure is significantly and negatively related to the free lunch level. Alone, the "percent FLE" measure picks up a coefficient of -.35 (standard error = .10) and is significant at p <.01 (Appendix 2 regression 1). Thus, a teacher in school with no free lunch-eligible (FLE) students scores about half a standard deviation higher on the "framework practice" measure than a teacher in a school with all-FLE students.

If differences in teachers' opportunities to learn are in fact driving the differences we found, entering measures for those opportunities to learn (and resultant curriculum use) should decrease the coefficient on "percent FLE." It does, reducing the coefficient on this measure to .23, a level that is significant at p=.01.[27] Entering the item that measures teacher textbook use further drops the coefficient to -.20, or about two-thirds its original size (Table Appendix 2 regression 3). The drop is about a fifth of a standard deviation in the dependent measure "framework practice." Thus teacher training and course materials can help offset the negative effects of concentrated poverty.

Teachers' Mathematical Knowledge

Advocates for the improvement of mathematics instruction note that it cannot happen unless teachers learn more about the mathematics their students work on. Lacking knowledge about such things as the ways "sharing" problems are related to division, teachers cannot respond constructively to student suggestions, encourage and guide mathematical discussion, or stray far from conventional mathematical texts (see articles in Brophy 1991).

The survey contained several ways to measure teachers' mathematical background. On the most conventional of these, teachers' reports of mathematics coursework and mathematics teaching coursework, no differences appeared. But the survey also included two multiple-choice questions which probed teachers' mathematical knowledge. Both questions probed teachers' knowledge of fractions.[28] Overall, teachers did not fare very well on either item. Only eight percent answered both items correctly (Table 16). Twenty-seven percent answered both incorrectly. Sixty-five percent answered one correctly and one incorrectly. The table also shows that teachers in high-poverty schools were half as likely to get both questions right, and more likely to get both wrong.

We have no way to know whether these differences resulted from differences in curriculum use and teachers' opportunities to learn or whether the differences existed earlier. If teachers' mathematical knowledge and skills were different before the reforms, it would suggest teachers might have selected an interpretation of the reforms that aligned well with their mathematical knowledge. Teachers who were less comfortable with the math may have elected, consciously or not, to view the reforms as more about hands-on activities than about student thinking about big mathematical ideas. On the other hand, differences in teachers' knowledge of the student mathematics might have resulted from their workshop experiences, or from their experiences with the new student curriculum. In any case, a variable representing how a teacher fared on these two items was not a significant predictor of their practices in implementing the state math frameworks. (see Appendix table A-2, regression 4).

CONCLUSION

Our results have implications for efforts to improve the quality of education in high-poverty schools. First, teachers' responses to our survey indicate that most California students experienced the state's instructional reforms as an increase in hands-on, "real-life" math problems and groupwork. This pattern in the interpretation of reform is consistent with much research on the implementation of instructional innovations. What was unusual about California is that the math reform also offered some students opportunities to probe mathematical ideas more deeply. That version of the instructional policy occurred much less often, but it did occur.

Second, we found that the relations between social class and versions of the state instructional reform varied with the version of reform. We found few social class differences in students' access to hands-on, real-life math problems and groupwork -- what most would regard as the more superficial interpretation of the reforms. But the more intensive and uncommon responses to the state reform were somewhat more likely to occur in schools that served affluent students.

Third, though our research shows that teachers and students in high-poverty schools had fewer of the resources that enabled teachers to respond more intensively to the state reforms, these social class differences were neither huge nor simple. The largest differences in access to the California math reforms were not blanket inequalities between well-to-do and poor communities. Rather they were differences between the quality of education available to a small minority of students whose teachers had unusually rich and coherent professional learning opportunities, and on the other hand, the overwhelming majority—both affluent and poor—whose teachers did not have such opportunities.

TABLE 16
TEACHERS' ANSWERS TO MATHEMATICS PROBLEMS
BY STUDENT SOCIAL CLASS**

Number (Row %)	Zero correct	One correct	Two correct	Total
Affluent	41 (21%)	136 (69%)	21 (11%)	197 (33%)
Mixed	61 (30%)	124 (62%)	15 (7%)	199 (34%)
Disadvantaged	58 (30%)	127 (65%)	11 (5%)	195 (33%)
Total	159 (27%)	386 (65%)	46 (8%)	592 (100%)

**Difference is significant at p<.15

We presume that causality is not simply a matter of what providers offer, though we have no direct evidence on the point. Apart from what is offered, it seems likely that many professionals in poor urban and rural schools would be attracted to the curricula and professional development opportunities that seemed to fit their conceptions of their own and their students' needs. Teachers who work in disorderly schools and struggle

with classroom management issues, or the administrators who supervise them, may be attracted to instructional approaches and curricula that deal with those issues, focusing less on academic skills and knowledge. Teachers who care about gender and racial problems are likely to be attracted to professional development opportunities that focus on these issues.

Fourth, these small inequalities in teachers' opportunities to learn tended to exacerbate pre-existing inequalities in schools. Schools in which teachers had access to extended and curriculum-centered opportunities to learn posted better student performance on a test designed to capture understanding of mathematical ideas. While not unprecedented (see Wiley & Yoon 1995; Brown, Smith & Stein 1995; Carpenter, Fennema & Peterson 1989)[29] these results are certainly unusual. They suggest that if our analysis is correct, when educational reform is focused on learning and teaching academic content, and when professional development curriculum for improving teaching overlaps with curriculum and assessment for students, teaching practice and student performance are likely to improve. Under such circumstances educational policy is an instrument for improving teaching and learning. Yet when policy fostered real improvements in student outcomes it tended to occur in higher-SES schools.

These research results lead us to several comments on improving Title I and other government programs that seek to boost performance for disadvantaged students. One concerns the way federal, state, and local school agencies set priorities for professional education in high-poverty schools: do they permit or encourage professional learning opportunities on issues that are tangential to academic instruction, while agencies serving more affluent schools focus on issues that are more central to academic instruction? Since the survey on which we reported shows such a pattern in the nation's most populous and racially diverse state, it may well occur elsewhere. We have no quarrel with attention to problems of diversity, classroom management, and gender, but when such things come at the expense of academic elements of instructional improvement, as it often appeared to in California, it is troublesome. It is especially troublesome when we recall that many teachers have no more than two to four days of publicly-funded professional development per year.

A second comment concerns efforts to improve teachers' and students' performance in high-poverty schools. We found such improvement in schools of all sorts when three conditions were met. One was that teachers' opportunities to learn were rooted in student subject-matter curriculum, and in better knowledge, from assessments or elsewhere, of students' thinking about mathematics. A second was that teachers were working within a set of consistent relationships among the instruments or agents of instructional policy, which included assessments, curriculum, and opportunities for professional learning. A third was the presence of incentives, arising within instruction, for teachers to take advantage of those learning opportunities and consistencies.

In California, these opportunities, consistencies, and incentives were created by agencies that "taught" teachers about the new math frameworks, by the curricula teachers used, and by teachers' use of these materials and opportunities. These things influenced teachers' interpretation of the reform, and were reflected in their practice. Those practices, in turn, were linked to higher school average student scores on a 1994 state math assessment that was designed to measure student reasoning, communication, and problem solving, along

with computation and other more conventional skills and knowledge. We find this evidence entirely credible, in part because it is supported by so much related research on instruction, student performance, and professional learning.

A third comment concerns the applications of this research, in efforts to improve teachers' and students' performance in Title I and other programs serving disadvanted youth. It seems reasonable to infer from our findings that the programs should be redesigned so that teachers have the learning opportunities, consistencies, and incentives that we described. Though we think that such inferences are on the mark, such reworking of the program would not be easy. One reason, evident in our analysis of the California reform, is that the delivered content of the state policy was only partly a direct result of the policy itself. When the California math reforms did result in appreciable changes in practice, it was partly because various intermediary people, networks, and agencies contributed to that result. Many of those people, networks, and agencies operated outside government, in "markets" for curriculum and professional development, while others worked in county or local districts, or elsewhere in the public and private territory between policy and practice. These agencies, individuals, and networks created curricula, classroom activities, temporary communities of practitioners concerned with improving instruction, and opportunities for professionals to learn about students' mathematical work and ideas. One moral of this story is that to change programs like Title I involves changing not only the program itself, but changing a complex set of public and private agencies that are entangled with the program in many different ways. They might support change if they were suitably encouraged to do so, but they will not necessarily change just because policy does so. A good deal more than policy is required to change the organizational environment that helps to shape effective or ineffective work. Changing official policy is only one modest part of changing enacted policy.[30]

Another reason why redesigning programs like Title I so that they support improved performance from teachers and students will be difficult is that though the three conditions mentioned just above are all about education for professionals and students, these were not the design features around which Title I was built. Quite the contrary, the program's design rests on the broad distribution of funds to a huge fraction of U.S. school districts, and the assumption—or hope—that states and localities will use relatively conventional educational resources (like more money, teachers, or basic-skills instruction) to improve teaching and learning. The great virtue of this arrangement is that it created broad political and professional support for a program whose purpose was at least partly to benefit poor children. Title I has endured through many political challenges because it has such a broad constituency in and out of Congress.

But that same political design also built into Title I profound disincentives for states and localities to focus sharply and relentlessly on matters of better academic content and student performance. For the program's design has created a virtual state and local entitlement to Title I funds: while that has helped the program endure, it has also impeded efforts to use the program to improve instruction and learning. The current challenge for Title I and other such programs thus is not only to find ways to rework the program so that teachers have the sorts of opportunities to learn and incentives that we have described, but also to do so in ways that will maintain the broad political

support that has so remarkably characterized this program for more than three decades. That will be difficult. One reason, as we just wrote, is that the program's political design inhibits a focus on effectiveness. Another is that even with the near-entitlement status of the program, political support for Title I has begun to erode in the last decade. Growing hostility to government social programs is part of the cause, but another is the lack of persuasive evidence that this social program has been effective in improving either instruction or student performance.[31] Title I has not invested effectively in research that would enable it either to use evidence to improve its own effectiveness or to generate more persuasive evidence on its effects and effectiveness.

If programs like Title I are to focus more effectively on improved teaching and learning, better research and evaluation must become a more central component of the program's design, and this research and evaluation should be focused on program improvement. One reason is purely instrumental: without sophisticated and dispassionate research, no one will learn enough about program operations and effects to significantly improve them. The California math reforms crashed in flames partly because reformers in state government and professional associations were content to prescribe for other peoples' children without investigating either how their prescriptions played out in professional practice or how they affected real students. When opponents raised questions about the reforms or attacked them, state and professional officials thus had only doctrine and political influence with which to defend their ideas. They were unable either to answer any of the claims that critics made, or to make adjustments in the policy that might have improved it, so they jettisoned the reforms.

Another reason that more and better research will be crucial to program improvement is both instrumental and political: without sustained, high-quality research on the impact of such programs, they will be increasingly difficult to defend in public discourse and political decisions. And still another reason is political in a broader sense: better research might help to create constituencies for greater effectiveness, despite Title I's near-entitlement status. Experience with the Congressional Budget Office and some other agencies seems to show that in some areas, in some periods, traditions of high-quality research have grown up, appreciably reduced partisanship, and thus created areas of more neutral political ground. Partisans sometimes welcome the opportunity to be let off their self-created hooks. The existence of such neutral ground then can enable political partisans to more wisely use evidence to inform political decisions.

In the case of Title I and similar programs, high-quality evidence of effectiveness also could help focus and mobilize support for improvement. For if research could produce better evidence on the effect of Title I on teaching and learning, it could enlarge opportunities to use this evidence to improve the program. And such improvement could in turn enlarge support for the program. Evidence that some approaches worked better than others would suggest both that the Title I program could work, and the ways in which it could work better. Such evidence could help mobilize support both for the process of improvement and for the program.

Though we think that efforts of this sort are worth arguing for, we recognize that they would not be easy to organize or sustain. The research would have to be of very high quality, and would have to be carried out by nonpartisan professionals in agencies that commanded broad respect. The would be

difficult to arrange at any time, and perhaps more so in the current more partisan political climate. It also would be costly, and sometimes controversial. Most important, social science is no silver bullet. Such research and evaluation would not be useful unless, after meeting the conditions just sketched, it also was used by professionals at all levels of government, and in public and private agencies. That would require professional courage and commitment to use this knowledge to change one's own work, and to focus more effectively on better performance for students. And that courage would be unlikely to flourish if politicians had the courage to support such work and to use better research to guide their decisions about resource allocation and program direction. But if better knowledge is no magic wand, it is a crucial ingredient in improving programs like Title I. For lacking better and more valid knowledge, political and ideological controversy about the program is likely to grow, and support for such programs is likely to further erode. The politics of more generous social policy needs to be opened up to include better knowledge about the effects of efforts to realize generous intentions. If better knowledge is neither an instant nor a solo salvation, it is one crucial ingredient in efforts to make programs like Title I more effective for children.

NOTES

[1] Dow, P. B. (1991). *Schoolhouse politics: Lessons from the Sputnik Era*. Cambridge: Harvard University Press. Tyack, Cuban, Larry. (1993) *How teachers taught : constancy and change in American classrooms, 1890-1990.* New York : Teachers College Press.

[2] The survey was designed by Ball, Cohen, Peterson and Wilson, in partnership with Dr. Joan Talbert at Stanford University's Graduate School of Education -- and carried out by Dr. Talbert (see Appendix B for a summary of the sampling frame). We owe many thanks to Deborah Ball, Penelope Peterson, Joan Talbert, and Suzanne Wilson, for help at many points, and are especially indebted to Dr. Talbert. The survey was supported by the National Science Foundation (Grant # ESI-9153834). The group selected a stratified random sample to represent the population of second through fifth grade teachers in California, and administered the survey in the Fall and Winter of the 1994-95 school year.

[3] Cohen, D.K. and Hill, H.C. (1998) "Instructional Policy and Classroom Performance: The Mathematics Reform in California." Unpublished manuscript, Ann Arbor, University of Michigan.

[4] Smith, M. S. and O'Day, J. "Equality in Education: Progress, Problems and Possibilities." CPRE Policy Brief June 1991.

[5] See articles in the Fall 1990 Educational Evaluation and Policy Analysis, and also in Brophy, J. (ed) (1991) Advances in Research on Teaching Vol II: Teachers' Knowledge of Subject Matter as it Relates to their Teaching Practice. Greenwich, CT: JAI Press.

[6] Knapp M. S. & Woolverton, S. (1995) "Social Class and Schooling" in Handbook of Research on Multicultural Education, J.A. Banks and C.M Banks, eds. New YorK: MacMillan pp 548-569; Knapp, M. S. and Turnbull, B. J. (1990) Better Schooling for the Children of Poverty: Alternatives to Conventional Wisdom. Menlo Park: Policy Studies Associates. O'Day, J. A. and Smith, M. S. (1993) "Systemic Reform and Educational Opportunity" in *Designing Coherent Education Policy*, Susan H. Fuhrman ed. San Francisco: Jossey-Bass p. 250-311.

[7] Rowan, B. Guthrie, L.F., Lee, G. V. and Guthrie, G. P. (1986) "The Design and

Implementation of Chapter I Instructional Services." San Francisco: Far West Laboratory.

[8] See above, Knapp, Shields, and Turnbull (1995).

[9] We count three: Anyon (1981) "Social class and school knowledge" in *Curriculum Inquiry* 11(1) 3-42. Wilcox, K (1982) Differential socialization in the classroom: Implications for equal opportunity. In G. Spindler (ed) *Doing the ethnography of schooling: Educational Anthropology in action* (p. 268-309). New York: Holt, Rinehart, and Winston; and Metz…… Evidence presented in Peter Ramsay's el al response to Anyon (Curriculum Inquiry 13:295-319) also tends to dispute these claims; in a sample of 30 elementary schools in New Zealand, Ramsay et al. found considerable variation among working class schools.

[10] Raudenbush, S. W. Fotiu, Randall P. Cheong, Y. F. "Inequality of Access to Educational Opportunity: A National Report card for Eighth Grade Math." Unpublished manuscript, University of Michigan 1998.

[11] Gehrke , Knapp & Sirotnik (1992). In search of the school curriculum. In G. Grant (ed) Review of Research in Education (18: 51-110). Washington DC.

[12] *Pursuing Excellence: A Study of US Eighth-Grade Mathematics and Science Teaching, Learning, Curriculum, and Achievement in International Context* (1996). Washington DC: US DoEd.

[13] To increase efficiency, schools and teachers in larger urban districts were undersampled while their peers in small districts were oversampled. The use of both population and non-response weights return the sample to an accurate reflection of conditions within the state, and these weights are used here. Repeated follow-ups and a small incentive for survey participants increased the response rate to 61 percent.

[14] Mayer, D. P. (1997) New Teaching Standards and Old Tests: Dangerous Mismatch? Unpublished doctoral dissertation, Harvard University, Cambridge.

[15] Schools' eligibility for Title I monies is far from perfectly correlated with students' poverty, since local districts may use several different criteria in assigning schools to the program. In addition, the adoption of whole-school programs might mean that teachers in high-poverty schools had no students formally classified as Title I. A final weakness in the survey measure was that there were no other questions about Title I program characteristics, such as subject matter covered, or pull-outs vs. in-class instruction; hence the measure could not be redeemed by using it in association with other data from the survey which would expose the interplay between Title I and the state's mathematics reforms.

[16] http://nces.ed.gov/ccd/ccddata.html.

[17] During the 1993-94 school year, a child from a four-person family with an annual income of $18,660 or less was eligible.

[18] The exact number varies due to missing data.

[19] Teachers originally had five response options to choose from: never, a few times a year, once or twice a month, once or twice a week, almost daily. To make this table easier to read, we collapsed the options at the ends.

[20] EEPA special issue on CA reforms.

[21] Only four teachers were sampled per school. As a result, our school-level measures of instructional practices and curriculum use contain generous amounts of error – yet this error biases against positive findings. See Cohen & Hill 1998 for further detail.

[22] See Appendix A.

[23] The standard deviation of CLAS is .52 (school level).

[24] See Cohen & Hill 1998 for a more lengthy discussion. We should note here, however, that this paper showed it was some combination of teacher learning, replacement unit use, and revised instructional strategies which led to higher student CLAS scores. Causality is difficult to sort out in this dataset for a number of reasons, and we included the "instructional practices" regression only here for purposes of parsimony. We are confident that some combination of the three result in higher CLAS scores.

[25] Teachers of high-status students were more likely to report *using* the document, but only by a small margin. Reform documents were in general not strongly related to teachers' beliefs and instructional practices (see Cohen & Hill 1998).

[26] "Traditional" and "reform" belief scales – as well as a scale of traditional practices – did not show any differences by student social class.

[27] See Table A-2 regression 2, in appendix.

[28] Which of the following could be used to illustrate what 3/4 means? (CIRCLE <u>ALL</u> THAT APPLY)

a.		1
b.	• • •/• • •/• • •/o o o	2
c.	Stand four children up in front of the room and place hats on three of them.....	3
d.	None of these because_____	4

Which of the following story problems could be used to illustrate what 1 1/4 divided by 1/2 means?

a.	You want to split 1 1/4 pies evenly between two families. How much should each family get?	1
b.	You have $1.25 and may soon double your money. How much money would you end up with?	2
c.	You are making some homemade taffy and the recipe calls for 1 1/4 cups of butter. How many sticks of butter (each stick = 1/2 cup) will you need?	3
d.	I'm not sure	4
e.	None of these. Instead:_____	5

[29] Carpenter, T. P., Fennema, E. Peterson, P. L. (1989) " Using knowledge of children's mathematics thinking in classroom teaching: an experimental study." American Educational Research Journal 26:499-531. Brown, C. A., Smith, M. S., & Stein, M. K. (1996). *Linking teacher support to enhanced classroom instruction*. Paper presented at the annual meeting of the American Educational Research Association, New York, NY. Wiley, D., & Yoon, B. (1995). Teacher reports of opportunity to learn: Analyses of the 1993 California learning assessment system. *Education Evaluation and Policy Analysis*, 17 (3), 355-370.

[30] The remaining portions of this conclusion draw heavily on ideas which have been developed at much greater length in a study of Title I which Cohen and Moffitt are presently completing.

[31] One reason for the lack of such evidence is the lack of any sustained effort to use research either to improve the program or to report thoughtfully on its impact. Title I has spent many millions of dollars on state and local evaluations, but with a few exceptions they have been perfunctory and of little use in program improvement. Other millions have been spent on national evaluations, which have been thought to show that the program has few or no positive effects on learning. Title I's friends and defenders also have missed significant opportunities to use existing evidence to impeach some of the less thoughtful conclusions that have been drawn from the national evaluations.

APPENDIX A: STATISTICAL TABLES

TABLE A.1
ASSOCIATIONS BETWEEN TEACHERS' PRACTICE AND STUDENT MATH SCORES

	1 CLAS
Intercept	2.14*
	0.32
Percent FLE	-1.36*
	0.13
School Conditions*	-0.13*
	0.05
Framework Practice	0.16*
	0.07
Traditional Practice	-.001
	0.05
R2 (Adjusted)	0.65

TABLE A.2 REGRESSIONS OF FRAMEWORK PRACTICE SCALE ON STUDENT SES AND OTHER VARIABLES

	Framework Practice	Framework Practice	Framework Practice	Framework Practice
Intercept	3.46*	3.14*	2.69*	2.62*
(se)	0.06	0.07	0.09	0.09
Student curriculum work shop-time		0.08*	.064*	.063
(se)		(.02)	(.02)	(.02)
Special topics workshop-Time		-.00	-0.00	0.00
(se)		(.03)	(.03)	(.03)
Past OTL		0.07	.09	.09
(se)		(.05)	(.06)	(.06)
Replacement unit use		.24*	.20*	.20*
(se)		(.03)	(.03)	(.03)
Textbook use			.23*	.23
(se)			(.03)	(03)
Math items				.07
(se)				(.05)

Percent FLE	-.35*	-.23*	-.20**	-.19**
(se)	(.10)	(.09)	(.09)	(.09)
R2 (Adjusted)	0.02	0.23	0.31	0.60

Note: all survey-based measures are averages from the teachers within a school who responded.

*Indicates significance at p<.01 level

** Indicates significance at p<.10 level

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[i] National Education Goals Report, Washington: GPO, 1997.

[ii] *National Education Goals Repor*t, xiv-xvii, Washington: GPO, 1997 25-60.

[iii] Rebecca Hermann, et. al, *An Educators' Guide to Schoolwide Refor*m, Washington: American Institutes of Research, 1999. (This report was commissioned by five of the nation's largest organizations of teachers and school administrators to inform their constituencies.)

[iv] Prospects: The Congressionally Mandated Study of Educational Growth and Opportunity, Education Dept. Website, "Analysis and Highlights, p. 1.

[v] V.O.Key, Jr., The Administration of Federal Grants to the States (Chicago: Public Administration Service, 1937; I.M. Labovitz, Aid for Federally Affected Public Schools (Syracuse: Syracuse University Press, 1962; Sidney C. Sufrin, Administering the National Defense Education Act (Syracuse: Syracuse University Press, 1963).

[vi] Gary Orfield and Helene Slessarev, and associates, Job Training Under the New Federalism: JTPA in the Industrial Heartland, Principal author, report to Subcommittee on Employment Opportunities, U.S. House of Representatives; Orfield and Nathaniel Jackson, New Federalism in the New South: An Assessment of Community Development Block Grants, Co-author, (Atlanta: Southern Education Foundation, 1985).

[vii] There was no trend of rising scores in two of the three New Jersey takeover cities and the increases were small in the third. (New Jersey Department of Education data in: Maria Newman, " New Jersey Finds No Simple Solutions in School Takeovers" New York Times, March 21, 1999.

[viii] Congress' own recent experience with the results of the imposition of a new governance structure on the District of Columbia schools should show that the problems are very deeply rooted and do not change rapidly even when the entire governmental structure is swept out.

[ix] Washington Research Project and NAACP Legal Defense and Educational Fund, Title I of ESEA: Is it Helping Poor Children? Washington D.C., 1969: ii iii.

[x] Ibid., 5-14.

[xi] Statement of Richard W. Riley, Secretary of Education before the U.S. House of Representatives Committee on Education and the Workforce on the Reauthorization of the Elementary and Secondary Education Act of 1965, February 11, 1999.

[xii] Citizens Commission on Civil Rights. Title I in Midstream: The Fight to Improve Schools for Poor Kids, Fall 1998: 16-18.

[xiii] 474 F. Supp. 244 (M.D. Fla. 1979).

[xiv] Marilyn McMillen, Dropout Rates in the United States, 1996, National Center for Education Statistics, NCES 98-250, l998: 29.

[xv] Neill, l998.

[xvi] A study by scientists from the Education Testing Service and the ACT studied 160,000 test takers but found that a tougher teacher exam would fail have of Latino candidates and two-thirds of blacks. The study also found that the teachers receiving the highest scores were those most likely to quickly leave the teaching profession.(Peter Schmidt, "Tougher Teacher Tests Seen Hurting Diversity," Chronicle of Higher Education, March 12, 1999: A31.) The Massachusetts exam which provoked national attacks on the quality of teachers, was found by three prominent testing experts to be unreliable in measuring verbal skills, to produce sharply inconsistent results for the same person, and poorly related to the state's curriculum.(Tina Cassidy, "Teacher Test Called Unfair and Unreliable," Boston Globe, Feb. 12, 1999: B1,B9.

[xvii] North Carolina has many other policies and also has followed a state policy of strongly and successfully encouraging consolidation of its city and suburban school systems into county-wide metropolitan systems and most of its cities do not have the isolated impoverished school districts so common elsewhere. Its largest cities have had

metropolitan-wide school desegregation for many years. These and other distinctive features are never noted by those pressing the testing explanation for the gains.

[xviii] National Center for Education Statistics, The NAEP Reading Report Card: National and State Highlights, 1998: 12-15.

[xix] Ibid., table A-4B.

[xx] John F. Kain and Daniel M. O'Brien, "The Impact of Minority Suburbanization in Texas Metropolitan Areas on Access to Higher Quality Schools," March 4, 1999.

[xxi] IDRA: 14.

[xxii] National Center for Education Statistics, NAEP 1998 Reading, State Report for Texas, NCES 1999-460 TX, p. 16.

[xxiii] Robert C. Johnston, "Texas Presses Districts in Alleged Test-Tampering Cases," Education Week, March 17, 1999: 22-23.

[xxiv] Jay P. Heubert and Robert M. Hauser eds.), High Stakes: Testing for Tracking, Promotion, and Graduation. Washington: National Academy Press, 1999; Karen Kelly, "Retention vs. Social Promotion: Schools Search for Alternatives," The Harvard Education Letter, vol. 15, no. 1 (January/February 1999); L.A. Shepard and M. L. Smith, "Synthesis of Research on Grade Retention," Educational Leadership, vol 47, no. 8 (May 1990): 84-88; Robert M. Hauser, "Should We End Social Promotion? Truth and Consequences," paper prepared for conference on Civil Rights and High-Stakes K-12 Testing," Columbia University, December 4, 1998; Earnest R. House, "Flunking Students is No Cure-All," New York Times, January 30, 1999.

[xxv] The sample is the civilian non-institutionalized population and excludes those in correctional facilities. There is a substantial undercount, particularly for young black men. The survey question was modified in 1992. These statistics are for graduates, not GED recipients, since GED's have much lower value in the labor market. National Center for Education Statistics, *Dropout Rates in the United States*, 1996, table 13.

[xxvi] P.L. 105-78, November 13, 1997.

[xxvii] Jay P. Heubert and Robert M. Hauser eds.), High Stakes: Testing for Tracking, Promotion, and Graduation. Washington: National Academy Press, 1999: 157-58.

[xxviii] Gary Natriello, ed., School Dropouts: Patterns and Policies, New York: Teachers College Press, 1986; "Research Identifies Effective Programs for Students at Risk of Failure, CREMS, December 1987; Eileen O'Brien and Mary Rollefson, "Extracurricular Participation and Student Engagement," Educational Policy Issues: Statistical Perspectives, National Center for Education Statistics, NCES 95-741, June 1995; Helen E. Garnier, Judith A. Stein, Jennifer K. Jacobs, "The Process of Dropping Out of High School: A 19-Year Perspective," American Educational Research Journal, vol. 34, no. 2 (Summer 1997): 395-415.

[xxix] 1992 data shows less than an eighth of seniors in these programs. Digest of Educational Statistics 1997: 137.

[xxx] "Little Difference Is Found in Charter, Public Schools," the Detroit News, Feb. 16, 1999; Mensah M. Dean, "Charter School Crisis: Fire Code Violations One of Many Problems," Philadelphia Daily News, October 30, l998; Christine Stoneman, "New Battlefields: As Charters and Voucher Schools Decry theBurdens of Special Edcucation, Advocates for Students with Disabilities Prepare to Defend Hard-Won Gains," Rethinking Schools, Fall 1998: 3; Jay Mathews and Valierie Strauss, "Problems Vex Two Charter Schools," Washington Post, November 19, 1998: B1; Estes Thompson, "Racial Makeup at Issue: Most Charter Schools Don't Meet State's Guidelines," Charlotte Observer, March 5, l998; Nick Anderson, "Low Marks for Charter Schools," Boston Globe, December 5, 1998; Tim Simmons, "Most Charters Fall Short of Teacher Standards," Raleigh News-Observer. November 13, 1998.

[xxxi] Boston Globe, 1999; Detroit Free Press, 1999.

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